The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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LAW INTELLIGENCE.

IMPORTANT TO RAILWAY CONTRACTORS.

VICE-CHANCELLORS' COURT—MARCH 27.

RANGER *v.* THE GREAT WESTERN RAILWAY COMPANY.—This cause stood in the paper for Sir Thomas Wilde to reply to-day, on the part of the plaintiff—the opening and defence having been heard last term. It will be recollected, that Mr. Ranger entered into contracts with the company to do the works at a stipulated price, and the engineer was to be the sole arbitrator of the proper execution and progress of the works, and must give his certificate of approval before the plaintiff could receive any advances, which were to be made once a fortnight—his current expenses amounting from 1500*l.* to 2000*l.* per week. The original plans on which the contracts were made had been extensively altered by Mr. Brunel, and extra works executed without any contract. For some time he gave certificates, but, it was alleged, not for near the amount due, and the contractor was compelled to borrow money of the company on the mortgage of his plant; he at length fell into pecuniary difficulties—the works fell in arrear, and, in 1836, the directors, throwing all blame upon the contractor, took possession of his plant (which was acknowledged to be worth 30,000*l.*, though the contractor valued it at twice that sum), and declared it and the money they owed him forfeited.

Sir T. WILDE, in his reply, contended that this was a case which, from the complexity of accounts, and the legal points to which it gave rise, could only be settled in a court of equity; besides, the minute examination necessary to ascertain the amount of work done, complicated questions would arise—viz., what a corporation may, or may not, do without a seal, and what causes of actions might be joined together; he remarked on the immense power which large contractors had been in the habit of giving to companies, and thought the time had now arrived when this error would be corrected. He urged the court to distinguish between arbitrary and capricious powers to secure the progress of the works, and such as related solely to payment when the works were completed. These powers had been all abused. He contended that the engineer wanted to conceal his own want of foresight, and throw the onus on the contractor, regardless of the ruin it would bring. There was not any single instance in which Mr. Ranger had been guilty of any dishonesty or evasion. The learned counsel's argument was not concluded at the rising of the court.

On Tuesday Sir T. WILDE concluded his reply, when His HONOUR requested to be furnished with copies of every thing that had been used in evidence in the course of the hearing, and said it was his intention carefully to read through every word before he gave his judgment. The case was one of such vast magnitude and importance, that he was desirous to give it his best attention and consideration; but, having regard to the increase of the current business which usually pressed upon the court as the sittings drew to a conclusion, he thought it best to state, that he should not be enabled to pronounce judgment before Michaelmas term.

LIABILITY OF DIRECTORS OF PUBLIC COMPANIES.

FOSS *v.* HARBOTTLE AND OTHERS.—This case was argued upon demurrer on the 7th and 8th inst. The bill was filed by the two plaintiffs, as shareholders in the Victoria Park Company, Manchester, against the defendants, seven in number, who were directors of the company, charging them that they had, in that character, induced the company to purchase lands from them at a price exceeding their fair value, and sought discovery into the accounts, &c., alleging that they had raised money by mortgage, in a manner not authorised by the powers of the Act. The company was incorporated in May, 1837, and the deed contained the customary clauses, and gave the powers usual in deeds of incorporation.—His HONOUR now gave judgment, carefully noticing the arguments on both sides, and adverted, with some particularity, to the bankruptcy of three of the directors, whereby their offices became vacated, and also to the circumstance of the office being given up, and all business being transacted at the solicitors; but considered still, that the plaintiffs were not thereby prevented from carrying out the powers conferred upon them by the Act. He could, under the circumstances, come to no other conclusion than that the demurrers must be allowed.

REVIEWS.

Exchequer Bills Forgery. A Statement, by WILLIAM MARINER. Pelham Richardson, Cornhill, 1843. 8vo., p.p. 85.

We have carefully perused this pamphlet, and are free to confess that we cannot arrive at the conclusion which the author would wish to impress upon the reader, while the extracts made, however they may justify the terms on which loans were raised for Solari and Rappallo, do not appear in any way, to us, to exculpate Mr. Mariner, and his broker, from the charge brought forward—of want of proper, if not ordinary, caution, in the transactions which led to so extensive a fraud upon the country; and to which we cannot believe otherwise than that parties, not indulpated by legal proceedings, willingly lent themselves, with the view of gain. As we cannot concur in the reasoning advanced by Mr. Mariner, so we avoid the expression of any controversial opinion, regretting, as we do, that the results should have been so injurious to the nation, which is called upon to make good the losses which have accrued from want of proper checks on the part of government, and, at the same time, that the author, in common with others (although of the "small fry"), participating, to a very limited extent, in the benefits arising from the fraud, should so seriously feel the consequences of exposure.

As we have before said, we have carefully perused the eighty-five pages of which this statement is comprised, and have to express our regret that we cannot arrive at any other conclusion than that, while we acquit the author of any guilty knowledge, he must, at least, in our opinion, be condemned for want of proper and ordinary caution, in carrying out transactions of so much magnitude with parties who were, in a great measure, unknown to him; and more especially, when we consider that an extra commission was awarded for his services, over and beyond that paid to the broker through whose instrumentality the business was done, and with whom the "principal" should directly have transacted his business, and not through a second agent. Altogether, the transactions were suspicious, and we think the less said the better.

NEW PATENTS FOR MARCH.

[From the *Mechanics' Magazine* of this day.]

G. Bowden, New road, Shepherd's Bush, for improved arrangements and apparatus for the production and distribution of light.

M. J. Cooke, Gray's Inn-square, solicitor, for improvements in the manufacture of artificial fuel.

W. Walker, George yard, Crown street, Soho, coach-smith, for improvements in the manufacture of springs and axles for carriages.

C. White, Nsel street, Islington, engineer, for improvements in machinery for raising and moving fluids.

R. S. Newall, Gateshead, Durham, wire rope manufacturer, for improvements in the manufacture of wire ropes, and in the apparatus and arrangements for the manufacture of the same.

W. Newton, Chancery-lane, civil engineer, for improvements in machinery or apparatus for making pins.

J. Pilbrow, Tottenham, engineer, for improvements in the application of steam, air, and other vapours and gaseous agents to the production of motive power, and in the machinery and apparatus by which the same are effected.

W. Betts, Ashford, Kent, railway contractor, and W. Taylor, of the same place, plumber, for improvements in the manufacture of bricks and tiles.

C. Chilton, Gloucester-street, Curtain-road, and F. Braithwaite, New road, engineer, for improvements in machinery for cutting or splitting wood for fuel and other purposes.

A. A. Croll, superintendent of the gas-works, Brick lane, Middlesex, and W. Richards, of the same works, mechanical inspector, for improvements in the manufacture of gas for the purposes of illumination, and in apparatus used when transmitting and measuring gas or other fluids.

A. M. Perkins, Great Coram-street, engineer, for improvements in the manufacture and welding of iron, which improvements are applicable for evaporating fluids, and distributing oils.

J. T. Betts, Smithfield bars, gentleman, for improvements in the manufacture of metal covers for bottles and certain other vessels, and in the manufacture of sheet metal for such purposes. [Being a communication.]

F. C. Mathieson, Birmingham, manufacturer, for improvements in the manufacture of hinges.

J. Mason, Huntingdon, gas engineer, for improvements in the manufacture of gas retorts, and in the modes of setting gas retorts.

W. Laycock, Liverpool, merchant, for improvements in constructing houses and such like buildings.

W. Pim, Kingston-upon-Hull, engineer, for certain improvements in the construction or formation of buoys or other water marks.

A. S. Wickett, City road, machinist, and J. Johnson, Manchester, machinist, for improvements in [illegible], and in the application of the same to the sails.

W. Barker, Manchester, millwright, for improvements in the construction of metallic pistons.

R. Robinson, Dudley, Worcester, nail-banner, for improvements in the manufacture of nails.

J. N. Taylor, Chelsea, captain, R.N., and W. H. Smith, Fitzroy-square, civil engineer, for improvements in breakwaters, bearing, and sound-signals; also in landing or transmitting persons and goods over or through strata or obstructions of any nature; all of which may be used either separately or in combination.

J. Barclay, engineer and brass founder, Kilmarnock, for improvements in lustres, chandeliers, pendants, and apparatus connected therewith, to be used with gas, oil, and other substances, which invention is also applicable to other purposes.

G. S. Wallace, Coleman-street, merchant, for improvements in the manufacture of chlorine and chlorides, and in obtaining the oxides and peroxides of manganese in the residuary liquids of such manufacture. [Being a communication.]

ANTE DILUVIAN TOAD.—On Saturday week, while some workmen were employed at their excavation in Hong Quarry, near Ulverston, they, on breaking up a piece of rock, found a toad imbedded in the same. On being released from its prison-house, it lay motionless for several minutes, but eventually became animated, and at present is quite lively. It is very large, and somewhat different in appearance from the common toad. The curious may see it in the possession of Mr. William Logan, Ulverston.—*Ayr Advertiser.*

MINING CORRESPONDENCE.

ENGLISH MINES.

TRETHELLAN MINING COMPANY.

To labour cost for January and February				£940	2	0
Merchants' bills for ditto				461	8	6
				£1401	10	6
Cr.						
By copper ores sold December and January	£2799	12	9			
Deduct 1-15th for lords' dues	186	12	10	—2612	19	11
Profit				£1211	9	5
Add balance on hand at last account				794	4	10
				£2005	14	3
Dividend this day declared of 10*l.* per 1-120th share				1200	0	0
Now in the purser's hands				£805	14	3

March 27.

HOLMBUSH MINING COMPANY.

March 27.—In the 110 fathom level, west of Wall's shaft, the lode is about eight inches wide, and worth 8*l.* per fathom. In the 100 fathom level west the lode is one foot wide, and worth 9*l.* per fathom; in the winze sinking below this level the lode is fifteen inches wide, and worth 12*l.* per fathom. In the 100 fathom level, east of Wall's shaft, the lode is still small and poor; the ground in the cross-cut, towards the Flapjack lode, is still hard for driving. The lode in the stopes, in the back of the 100 fathom level, is eighteen inches wide, and worth 35*l.* per fathom. The eighty and ninety fathom levels, west of Hitchins's shaft, are still progressing in favourable ground towards the lode. In the back of the ninety fathom level the lode in the eastern stopes is twenty inches wide, and worth 30*l.* per fathom; in the middle stopes the lode is twenty inches wide, and worth 40*l.* per fathom; and in the western stopes the lode is two feet wide, and worth 50*l.* per fathom. In the eighty fathom level, east of Wall's shaft, the lode is six inches wide and unproductive; the ground in the cross-cut at this level, towards the north lode, is favourable for driving; the lode in the stopes, in the back of ditto, is sixteen inches wide, and worth 25*l.* per fathom. In the seventy fathom level, west of Hitchins's shaft, the lode is nine inches wide, and producing stones of ore. In the sixty-two fathom level, east of Bray's shaft, the lode is still small and poor; ditto, west of Hitchins's shaft, the lode is about ten inches wide, and producing a little ore. In the deep adit, east of Lady Beam shaft, the lode is sixteen inches wide, composed of capel, spar, and mundic. The pitches are without important alterations.

T. RICHARDS.

TREGOLLAN MINING COMPANY.

March 21.—I weighed Tregollan ores yesterday, fifty-five tons, and sampled thirty one tons.

March 25.—Since I wrote you last, a small improvement has taken place in the mine. We have cut through the lode at the fifty fathom level, which is about ten feet north of the part driven on; the north, or leader, part of it is about six inches wide, producing black and grey ores; the western end will, at present, pay for driving. I think it adviseable to put some of the sumpmen to drive west on it, and if the ore does not continue in driving, a winze ought to be sunk—so long as it pays for sinking; we can afterwards set it at tribute. By sinking a winze, we shall discover whether it is another lode or not—at present it looks promising. I shall drive west, with two of the sumpmen, until further orders from you, which, I hope, you will send before Friday next, the setting-day. Please to say if a pitch may be set to pick over the halvans; it will increase the quantity of the ore, as the water for the stamps is falling off, and we can stamp the refuse afterwards; and also if any other works are to be performed that are not now in operation.

H. WILLIAMS.

TRELEIGH CONSOLS MINING COMPANY.

March 25.—The eighty, east of Christoe, is one foot wide, stones of ore, but of little value. At the eighty west we are driving north to see more of the lode. The seventy west is worth 6*l.* per fathom, and has a favourable appearance. In the sixty, west of Garden's, the lode is five feet wide, and worth 8*l.* to 10*l.* per fathom. The fifty west is rather disordered. At Good Fortune, we are driving the cross-cut south in fair ground. The fifty west is two and a half feet wide, worth 4*l.* per fathom—this is a very kindly lode. The forty-four west is large, with stones of ore. In the thirty-four west the lode is three feet wide, producing good stones, and has a kindly appearance.

W. SYMONS.

WEST WHEAL JEWEL MINING ASSOCIATION.

March 27.—No material alteration in the eighty-five cross-cut south since our last. The seventy east, on the south branch, is worth 8*l.* per fathom; the ground in the seventy west, on Wheal Jewel lode, is more favourable for driving. No lode taken down in any other place since our last report, but we intend to take down the lodes in the different levels and winzes, and report upon them next week.

S. LEAN.

UNITED HILLS MINING COMPANY.

March 29.—At the seventy fathom level, in the eastern end, the lode is four feet wide, two feet good ore; at the western end the lode is two and a half feet wide, producing but a small quantity of ore. At the sixty fathom level, in the eastern end, the lode is four feet wide, producing some good ore, and improved since last week; the lode in the western end is five feet wide, two feet on the north part ore of fair quality. At the fifty fathom level the lode is three and a half feet wide, good for ore. At James's shaft the lode is three and a half feet wide, orey throughout, but not rich. At the forty fathom level the lode is eighteen inches wide, six inches ore of good quality. At Wheal Sparrow, at the twenty fathom level, the lode is two feet wide, producing ore of low quality. At the adit west the lode is one foot wide, with stones of ore.

N. LANGDON. S. H. PEARCE.

Produce of ore sampled last week:—130—6, 72—5, 54—5¼, 43—12¾, 20—6. In all, 319 tons.

CORNUBIAN MINING COMPANY.

March 27.—Our sumpmen have been engaged during the past week in sending down the new plunger lift, consequently, have not done much in the seventy fathom level. The lode in the sixty fathom level west is two feet wide, producing some good work; it appears we are not far distant from a rich course of ore. Murray's shaft, sinking below the fifty fathom level, is passing through a strata of ground very much congenial to lead. We have this day laid the foundation of the new engine-house.

J. WEBB.

TAMAR SILVER-LEAD MINING COMPANY.

March 27.—On Saturday last was our usual monthly setting, when we set twenty-three pitches, and there are six others, the men's time not expiring until another month, making a total of twenty-nine pitches, employing ninety men on a tribute, varying from ¾*l.* to 18s. in the 1*l.*, on the value of the lead only. The levels on the whole are much the same as reported last week, except the seventy-five end, which is not looking quite so well. The 125 end is still very orey and promising. We do expect to commence sinking the new incline shaft the beginning of next week, and the foundation for the engine-house, &c., for the new stamps will be cleared out this week, and the masons will commence building directly afterwards. We expect to sample the middle of this week, when the quantity will be from sixty-five to seventy tons. The steam-stamps ore will not be sampled until another month. At the North Mine, at the thirty fathom level driving south, the lode is about two and a half feet wide, producing stones of silver-lead ore. In the end, driving north at the same level, the lode is two feet wide, one foot of which is saving work.

J. SPRAGUE.

CONSOLIDATED TRETOIL MINING COMPANY.

March 27.—The lode in the fifty fathom level, east of Henwood's shaft, is nine inches wide, producing a small quantity of ore. The lode in the fifty fathom level, west of Henwood's shaft, is nine inches wide, producing a small quantity of ore. The lode in the forty fathom level, east of Henwood's shaft, is one foot wide, very good tribute ground. We have this day holed the forty fathom level from Williams's to Henwood's shafts. The Blind Will's lode, at the adit level, east of Morcom's shaft, is ten inches wide, unproductive. The tip lode, in the back of the adit level, east of Morcom's shaft, is much as last reported.

H. WILLIAMS. J. MORCOM.

FOREIGN MINES.

ALTEN MINING ASSOCIATION.

Feb. 15.—Estimated total produce in January, 1843:—220 tons ore, containing twenty tons refined copper—the result taken principally by assay. You will see that we have made further advance since December, and the general appearance of the workings leads us confidently to hope that we shall fully maintain our present rate of produce. In the past month Wilson's lode produced ninety-four tons of ore, containing nine and a half tons of refined copper (of the ninety-four tons there were thirty-seven tons of prills, of 15½ per cent.), the whole of which has been delivered to the smelting-house, so that these workings fully maintain their character. The north lode is at present small, but has a very promising appearance. On the south lode we have four stopes, producing four tons, of 10 per cent., per fathom. The lode in the winze, under the main level, is six feet wide, composed of limestone and quartz, with rich copper pyrites. A new winze has been set at the eastern extremity of the present workings; the lode, for the first fathom in the sink, produced four tons, of 10 per cent., per fathom, but has recently fallen off, owing to a bed of chlorite slate having intersected the lode, at the depth of two fathoms under the Lobby level. A new stope has been set in a cross vein at the [illegible], and is producing two tons, of 7 per cent., per fathom; this vein will, in all probability, intersect the main lode. The cross-cut is now open, and will very materially facilitate our operations in keeping the mine clear of water and stuff. At Hyper's we have only one stope, in a very promising lode, fully two feet wide, and yielding about two tons, of 7 per cent., per fathom. The indications of the [illegible] lode are so very encouraging, that it is our intention to resume that working in March. I repeat, that the greater portion of the estimates has been tested by assay, and that which is left, strictly to estimate, has been made with due caution; the result is highly encouraging, and it will be satisfactory to you to find, by the accompanying note (the delivery note), that the returns to the smelting-house fairly keep pace with our produce. Nothing has occurred to check our preparations for the departure of the galliot *Allen*, with a full cargo of refined copper, the first week in March.

MACHINE FOR RAISING AND LOWERING MINERS—TRESAVEAN MINE.—The spirited adventurers of this justly-celebrated mine have lost no time in carrying onward this machine to its completion. On Tuesday last, the 28th, it commenced working to the deep level, 224 fathoms under the adit (the adit, we believe, is forty fathoms below the surface), a depth in all nearly a third of a mile, and it brought up the men in about fifteen minutes. All parties are delighted, as well with the working of the machine, as with its effects in relieving the workmen from the exhausting and destructive labour of clambering up and down such an excessive length of ladders, enabling them to devote their full strength to their work, and averting those evils belonging to their occupation which are most baneful to health, and the most destructive to life.

MINING IN NEW ZEALAND.—A copper mine is now being worked on the Great Barrier Island, in the Frith of the Thames, in New Zealand, the produce of the ore of which is sometimes as high as 40 and 60 per cent., and the average about 30 per cent.

MINING STATISTICS OF THE UNITED STATES.—The capital invested in iron mines during the year 1840 amounted to $20,432,131; and the quantity of that metal produced was 286,903 tons of cast-iron, and 197,233 tons of bar-iron during the year. The capital invested in lead mines was $1,346,756, and 31,239,453 lbs. of lead were produced. In gold mines $234,325 were invested, and gold to the value of $529,605 was produced. Capital to the amount of $238,980 was employed in mining for other metals, and the value of the produce was $370,614. The capital invested in the anthracite coal mines was $4,355,602, and in the bituminous coal mines $1,868,862; and the produce was 863,489 tons of the former, and 27,603,191 bushels of the latter. The production of domestic salt employed $6,998,045, and the number of bushels of that article manufactured was 6,179,174. In granite, marble, and other stone, $2,540,159 were invested, and the value of the quantity of those materials produced amounted to $3,695,884 annually.

MINING IN MISSISSIPPI.—We learn, from a letter, dated Philadelphia, February 20, "that nearly 40,000,000 lbs. of lead was sent from the Upper Mississippi alone last year; and you would be surprised at the numerous explorations for copper, and the many rich mines opened, yielding from 20 to 50 per cent.; great quantities of it will now be smelted."

DISCOVERY OF LEAD ORE.—In these dull times it is cheering to announce that the Mona Mining Company, on Monday last, hit upon a vein of lead ore of great value. It is situate on the left-hand side of the highway from Douglas to Peel, near Ballaquinney, in the parish of Marown. The vein is about three feet wide, yielding an ore rich in metal, and from appearance extends to great depth. This valuable discovery confirms the opinion expressed by the best geologists, that much of the mineral wealth of this island remains as yet unexplored. From the peculiar formation of the mountains, the recumbent strata of which they are composed, and the nature of stalactities found in caves, and other places where the water has filtered through the rocks, or exuded through subterraneous fissures, the conclusion is well drawn, that time, perseverance, and science, will explore more and more the value of those mountains which have been considered the waste lands of Mona.—*Manx Sun.*

THE SULPHUR TRADE.—By another decree, dated the 5th of Nov. last, we find the duty on the export of sulphur from Sicily was reduced from eight carlini to two carlini per cantaro. The Palermo cantaro is equal to 175 lbs. and a fraction; and the carlini is about 4d. sterling. The Naples cantaro is equal to nearly 196¼ lbs. It may be presumed that the sulphur tariff is governed by the Palermo weight, whilst, for products common to the whole kingdom, the Naples standard should be understood.

THE COAL DUTY.—The price of the best steam coal (the quality chiefly required abroad) has been reduced within these few days on the Tyne 6d. per ton—and the freights are at least 1s. 6d. per ton less than last year to the French and Dutch ports. These reductions exactly amount to the duty imposed by Sir Robert Peel, and, consequently, completely fulfil the prediction which we made (when the duty was in agitation), that the British shipowner and coalowner, and not the foreign consumer, would have the duty to pay.—*Gateshead Observer.*

CORNISH ENGINEERING.—An enormous steam-engine, by far the largest ever constructed, is now in process of manufacture at Harvey and Co.'s Foundry, Hayle. The piston-rod, which was forged last week, is nineteen feet long, thirteen inches diameter in the middle, and sixteen inches in the cone, and weighs 3 tons 16 cwt. It will work in an 80-inch cylinder, which will stand in the middle of another cylinder of 144 inches diameter. Five other piston-rods will work between the inner and outer cylinders. We conclude, for this has not been explained to us, that the piston of the external giant cylinder will be perforated in the middle for the 80-inch cylinder to stand in it, and will work between the two. The 80-inch cylinder was cast last week, and the large one will be cast soon. The pumps are to be sixty-four inches in diameter!—a measurement which may afford some idea of the size and power of the engine. It is intended for draining the Harlaem Lake, in Holland, and it is expected that other orders for similar engines will be received from the same quarter. It is truly gratifying to us to observe, that Cornish engineers still keep so far in advance of all the world, and not less gratifying to see, that foreign powers know, and can appreciate their excellence. Let this wonder of engineering and mechanical skill be considered, as well as the duty done by our common mine engines [as reported in our last Number], and it must be confessed that our Cornish mechanics are in this branch far in advance of every competitor; and we may reasonably hope, as superior merit must be appreciated at last, that our engine foundries will, at length, have their full share of public and Government patronage.—*Cornwall Gazette.*

MR. WILLIAMS'S PATENT FOR CONSUMING SMOKE.—On Saturday, the *Pegasus* steamer made a trial trip, from Leith round Inchkeith, to prove the working of Mr. C. W. Williams's patent furnace for saving fuel and consuming smoke, previous to her resuming her regular station betwixt Leith and Hull, in consort with the new steamer *Martello.* The trial was very satisfactory indeed, there being a full supply of steam at 7 lbs. of pressure, even while the vessel was light, and the engine running betwixt twenty-four and twenty-five revolutions in a minute. The usual blackness of the smoke was considerably reduced; and this particular will be entirely effected when the firemen have more experience in regulating the draught. One voyage or two will suffice for this, and it is confidently expected, from this short run, that a very great saving will be made in the fuel used in a voyage.—*Edinburgh Chronicle.*

BRISTOL AND EXETER RAILWAY.—We understand that notice has been given to the Board of Trade, that the line from Taunton to Beambridge will be ready to be opened for traffic towards the end of April. It will be gratifying to many of our readers, and to the shareholders especially, to learn that the contracts lately let were taken by responsible parties, on terms averaging less than 3000*l.* per mile; those for the remainder of the line to Exeter will be advertised in about a month from the present date. The Exeter station, the land for which is already paid for, will be commenced within the next three months. There are but few undertakings that present a more cheering prospect to the proprietors than this railway.—*Bristol Mercury.*

IMPROVEMENTS IN ROAD MAKING.—A pamphlet, entitled *Remarks on the Management of Highways, with Observations on the Various Principles of Road Making*, by E. Bagot, M.A., C.E., and surveyor, of Llanelly, has been forwarded us, which is well worthy the attention of all subject to the payment of rates for the support of highways, &c., and particularly to persons engaged in overlooking the repair of roads, &c. The present system of appointing officers from among the inhabitants, whether farmers or tradesmen, without regard to proper qualification, year after year, to assess, collect, and expend a highway rate, is thoroughly exposed, and one recommended in which due responsibility is attached to the officers appointed, with proper checks on their conduct. A permanent overlooker being appointed, with *that one* duty to perform, would enable him to know every mile of road in his district, what repairs it would be likely to require during the year, and make his arrangements accordingly. It would be his duty to keep correct plans by him of all roads, lanes, culverts, bridges, &c., with vertical sections of the different strata, and the quarries in the neighbourhood; and facilities not at present in existence, would be afforded for any improvements which might be contemplated. An immense amount of able-bodied pauper labour might be obtained in almost every parish, at present but little availed of, in consequence of the poor law regulations, and a case is cited, where the employment of eight men with families, amounting to forty-two individuals, proved a gain to the parish of 2*l.* 11s. per week, or 132*l.* 12s. per annum, *besides the amount of their labour.* In some observations which follow, the author takes a review of the various systems of road making, which have been brought into notice—viz., Roman roads, or those with a rough pitched surface below, and broken material above; the Telfordised roads, of which there are 1000 miles in Scotland alone, which are smooth pitched below, and broken material above; and M'Adamised roads, formed entirely of broken material. The various advantages of each are dispassionately given, and the pamphlet may be recommended for perusal to all persons interested in the improvement of parish bye-roads and highways, which, in many parts of the country, are, at present, anything but creditable to the improved spirit of the age.

MINE ACCIDENTS.—As William Barrow, who was at work in the *South Wheal Pit*, a few days since, a piece of timber which was placed across the top of the shaft for the purpose of directing the ropes, fell from its position upon his head, and injured him severely.—As R. Stevens was at his work in *Wheal Fortune* Mine, on Monday last, the stage on which he was standing turned over, precipitating him down a distance of seven or eight fathoms.

PROCEEDINGS OF PUBLIC COMPANIES.

COPIAPO MINING COMPANY.

The half-yearly meeting of the proprietors of this company was held at the office, Austin-friars, on Friday, the 31st ult.

HENRY HARMAN, Esq., in the chair.

After the usual preliminary business, the following report was read:—

Since the annual meeting in July last, four vessels have arrived for this company, bringing, together, 1363 tons of copper ore, which averaged 26 per cent. of copper, and realised 27*l.* per ton. The Swedish ship, *Edward*, with 320 tons of ore, sailed from Copiapo on the 17th of November last, but is not yet arrived. The English brig, *Magflower*, arrived at Copiapo on the 25th of November last, and would be dispatched in three weeks. She will bring about 350 tons of ore, and may be shortly expected. The directors have since chartered three other vessels—viz., the *Undaunted*, *Cynthia*, and *Monarch*, at reduced rates of freight, to follow in succession; they will load, together, about 1000 tons of ore. The quantity of copper ore remaining in the valley of Copiapo, at the date of the last advices (16th November) amounted to about 7000 tons, of which 800 tons were lying in the port ready for shipment. Although the produce of the shipping ores at the mine of Checo had fallen off latterly, a considerable quantity of halvans, or poorer ore, had been raised, but not sufficiently rich to admit of their transport for shipment until properly dressed. The mining captain in his last report, however, states that an improvement had taken place in the appearance of this mine, which he expected would shortly lead to some increase in the produce. The Quebrada Mine still continued in a good and productive condition. During a period of fourteen months, since operations were commenced, upwards of 1200 tons of ore of good quality had been raised and prepared for shipment, a cargo of which will be shipped per *Magflower*. Notwithstanding that no decided results had attended the operations at the silver mines, up to the date of the last advices, it was, nevertheless, satisfactory to learn, that there was every probability of a favourable change shortly taking place, and that, before long, these mines would become productive. The produce of the silver ore raised at Pampa Larga has given, on an average, 45*l.* per ton, and those raised at San Jorge 27*l.* per ton. The balance of expenditure at the silver mines, up to 30th June last, did not exceed 1600*l.* The number of men employed at these mines, at the above date, was only thirty-three, but the directors have authorised the manager to put on twenty additional hands at Pampa Larga, in order that the works may be prosecuted with greater vigour. Since the payment of the dividend in September, the profits realised, arising from the four last cargoes, have amounted, after payment of the duty, to only 2180*l.* This new duty on the importation of foreign copper ore, amounted, on the above cargoes, to 2200*l.* (being equal to 33*s.* per ton). The fall in the price of copper ore, and the high rates of freight paid upon ships taken up in the early part of last year, at Valparaiso, have occasioned a considerable diminution in the profits of the company. Under these circumstances, it must be evident to the shareholders that a dividend cannot be made at present. It is to be hoped, however, that ere long the copper trade will revive, and again become profitable.

A special report of the mining captains, as to the Pampa Larga silver mine, was also read.—It was then moved, and carried unanimously, that the report be received and adopted.—The thanks of the meeting were voted to the directors, for their attention to the affairs of the company, and the meeting separated.

BIRMINGHAM AND GLOUCESTER RAILWAY.

A special general meeting of the shareholders of this company was held at Dee's Royal Hotel, Birmingham, on Tuesday, the 28th inst., for the purpose of taking into consideration the draft of a bill to enable the company to raise a further sum of money, and to amend former Acts.—The CHAIRMAN (Capt. Moorsom, R.N.) said the proprietors, at meetings in February and May, 1841, had made certain financial arrangements, under which the directors had brought a bill before Parliament. He explained the financial statement which was appended to the report. He said many circumstances had concurred to depress the credit, and to lower the character, of the company; slowly, and with difficulty, the company had raised itself in the midst of obstacles, and, by carrying this bill, they should be placed on a firm and permanent basis. He pressed on every gentleman to record his vote.—Mr. W. M. TARTT moved a resolution, to the effect, that it was not expedient to raise the additional capital, and that no further proceedings in Parliament be taken, and Mr. CARRINGTON seconded it.—Mr. BAKER (of Gloucester) moved, as an amendment, "That the bill now before the meeting be sanctioned and proceeded with."—This was seconded by Mr. BEALE, and, by a show of hands, was declared to be carried.—Mr. HUGHES demanded a scrutiny, and, at its termination, the result was—For the amendment, 730 present and 1595 proxies; total, 2325. Against it, 244 present, 1864 proxies; total, 2108—thus showing a majority in favour of the bill of 217.—A vote of thanks was then passed to the chairman, and the meeting broke up.

NEWCASTLE AND CARLISLE RAILWAY.

The annual meeting of the shareholders in this company was held in the Assembly Rooms, Westgate-street, Newcastle-upon-Tyne, on Tuesday, the 29th ult., M. PLUMMER, Esq., in the chair.—The report of the directors, which was drawn up in a very perspicuous manner, stated the directors felt great regret at not being able to congratulate the proprietors on an improvement in their trade, as the railway had, in common with others, suffered much from the depression of the times, though not to the same extent as some of them; all the reductions, however, in the establishment, which had been recommended by the committee of investigation, had been acted upon, and these reductions, in some measure, made up for the deficiency in the revenue. The directors felt considerable disappointment that the commissioners appointed by Government to report on the projected lines into Scotland should not have decided on an inland line, as two lines, one by the east coast from Newcastle, and the other on the west from Carlisle, are unnecessary; but they were not without hope that the Government might yet be induced to give their consent to a measure so important as a direct railway communication from the north of England with Edinburgh and Glasgow, to be effected by the Newcastle and Carlisle line. The balance of profit for the year was 15,063*l.* 19*s.* 4*d.*, from which the directors recommended a dividend of 6*l.* per share on the 100*l.* shares, and in proportion on the quarter-shares.—The report was, after some discussion, adopted, and the dividend declared payable on the 21st instant.—The Duke of Marlborough, Mayor of Carlisle, J. D. Fowler, M. Plummer, A. Hall, W. Woods, G. Johnson, J. Losh, J. Bainbridge, and P. Dixon, Esqs., who went out of the direction by rotation, were re-elected.—Thanks were voted to the chairman, and the meeting separated.

DUBLIN AND KINGSTOWN RAILWAY.

The annual meeting of the shareholders in this company was held at the company's offices, Westland-row, Dublin, on Saturday, the 25th ult. F. LOWE, Esq., in the chair.—Mr. J. PIM read the report, which was of considerable length, and highly satisfactory. It appeared that, since the opening of the line, dividends had been paid upon the capital stock of the company, amounting to 46,000*l.*, and 21,179*l.* 18*s.* 7*d.* had been applied, from annual profits, to the liquidation of the loan from the Board of Works. Much of the attention of the directors had been paid to the extension of the line to Dalkey; the Lords of the Treasury had recommended to the Board of Works to sanction a loan to the company for the estimated amount, and the first instalment of 8000*l.* had been received. The contracts for the earthwork, bridges, masonry, &c., had been given to Mr. W. Dargan, and the atmospheric apparatus of Messrs. Somers Brothers was in a state of great forwardness, and would, no doubt, be completed early in the ensuing summer. The net profit for the year amounted to 13,720*l.* 0*s.* 6*d.*, out of which they recommended a dividend of 3*l.* per cent., and 2000*l.* for the reduction of the debenture loan—leaving an unappropriated balance of 1720*l.* 0*s.* 6*d.*—After a lengthened conversation, principally on the cost of the line, and the general expenditure of the capital, the report was adopted and the dividend declared.—Messrs. H. Roe, J. Kincaid, and J. Magee, Esqs., three directors, who went out of office by rotation, were re-elected.—Thanks being voted to the directors and chairman, the meeting separated.

ULSTER RAILWAY COMPANY.

The half-yearly meeting of the proprietors in this company was held in the board-room, at the station, Belfast, on Thursday, the 16th inst.—JAMES GODDARD, Esq., in the chair.—The report stated that the receipts for passengers for the six months ended 28th February, was 7442*l.* 11*s.* 1*d.*, and goods 3332*l.* 13*s.* 4*d.*—making a total of 10,800*l.* 0*s.* 5*d.*, of which sum there was a net profit of 3336*l.* 7*s.* 10*d.*, out of which a dividend of 10*s.* per share was declared, and 93*l.* 7*s.* 10*d.*, added to the reserve fund. In consequence of the Dublin and Drogheda Company having differed materially to their gauge of rails with this company, the directors had thought it their duty to call the attention of the board of trade to the subject, as at a no distant day, a junction of the two lines might be required. The report was adopted, the dividend declared, and a resolution passed, requesting the directors to consider the propriety of running third-class carriages with each train.—Thanks were then voted to the chairman, and the meeting separated.

VAN DIEMAN'S LAND COMPANY.

The annual meeting of the proprietors in this incorporation was held on Monday, the 27th ult., at the offices of the company in Old Broad-street.—WILLIAM BURNIE, Esq., in the chair.—The report gave a very satisfactory account of the results of the survey of the company's lands by the Government, as communicated by Mr. Kentish; the intermediate country was luxuriant, fertile, and level in the extreme, and was expected to draw a large number of settlers. Up to the 25th of August, there were settled at Emu twenty-two families, who rented 2300 acres of land, and at Cornelian-bend, the Mainland, and Peninsula, fifteen families, renting 1640 acres; the horses were fine, and the sheep in good condition. On the Surrey and Hampshire Hills everything looked well. During twelve months, ending June 30, 1842, the value of live stock realised 6031*l.*, and the clip of wool of 1841, consisting of ninety-two bales, had realised 1221*l.* It concluded, by stating that the colony was established on a firm basis, and that it possessed resources sufficient to ensure lasting prosperity.—The report, after some discussion, was adopted.—An election for directors and auditors, who have since not by rotation, followed, and after the cordial thanks of the proprietors present had been voted to the chairman and sub governors, the meeting adjourned.

CANADA COMPANY.

The annual general court of the proprietors was held at the house of the company, St. Helen's-place, on Wednesday, the 29th ult., for the purpose of receiving the directors' report, and of electing four directors and one auditor, in conformity with the provisions of the charter.—Mr. CHARLES FRANKS (the governor) having taken the chair, entered upon the business of the day, by reading a statement, from which it appeared that the sale of lands on the company's estates effected during the past year amounted to 37,477 acres, at an average price of 12*s.* 11*d.* per acre currency, and that in the Huron tract 28,127 acres had been disposed of at the rate of 11*s.* 7*d.* per acre, giving a total of 65,064 acres, and producing, together with other sales, a net profit of 66,270*l.* The expenses of management in London amounted to 2330*l.*, and in Canada to 3970*l.* The total on the debit side of the account was 98,650*l.*, and upon the credit side 69,380*l.*—leaving a balance in favour of the company on the year's operations of 40,930*l.*, being an increase of 11,000*l.* upon the profits of the previous year. This was principally to be attributed to the progress which had been made in the Huron tract, where the sales of land had increased from 8000 to upwards of 72,000 acres, and the population by an addition of 1849 settlers, possessing a capital of 21,000*l.* Fresh settlements of large bodies of emigrants, from Eastern Canada and elsewhere, were likely to take place in the present year, and the only thing now wanting to promote the ultimate prosperity of the colony was the opening of the British market to the staple commodities of Canada.—The report having been received and adopted, the CHAIRMAN stated, in reply to a proprietor, that 42,000*l.* was still owing for bills unpaid, the whole of which was secured upon property.—After a recommendation from Mr. POYNDER, that the expenses in Canada of 5000*l.* per annum should be reduced as much as possible, and an intimation from Sir J. EASTHOPE, that the directors were desirous of carrying out the suggestion, Mr. POYNDER complained that he and his brother auditors had not, though they had frequently applied, been able to see the company's accounts, as forwarded from Canada.—The SECRETARY, on being appealed to, stated that no such application, to his knowledge, had been made by Mr. Poynder, but that the accounts were always on the table for inspection.—Mr. POYNDER reiterated his statement; and, after a somewhat warm discussion on the subject, Mr. R. Biddulph, Mr. J. Goodes, Mr. M. T. Smith, and Mr. A. Stewart, were re-elected directors, and Mr. Poynder and Mr. Evedson auditors of the company.—A vote of thanks to the chairman, directors, and auditors, then terminated the proceedings, and it was announced that the dividend on the profits for the year would be declared at the meeting in July.

NEW BRUNSWICK AND NOVA SCOTIA LAND COMPANY.

The annual meeting of this company took place at the George and Vulture Tavern, Cornhill, on Thursday, the 30th ult., JOHN MOXON, Esq., in the chair, who, having regretted the necessity they had been under to adjourn the meeting through the late arrival of the accounts, requested the SECRETARY to read the directors' report, from which it appeared, that a great increase in sales of land had recently taken place. Thirteen families residing in Cheshire, with several others, intended going out to the provinces early this season. The progress of the company in the last three years were—In 1840, fifteen buyers, 2160 acres; 1841, eighteen buyers, 2700½ acres; 1842, forty buyers, 5195 acres, and 1600 acres and two town lots had been sold in England in last November, the buyers being six in number. The returns of Capt. Hayne showed also a large increase in the stock and crops of the settlers over that of the year preceding. The commissioner expected to dispose of 9000 acres to fifty-four purchasers, which would lay the foundation of a new settlement. It appeared from the balance-sheet for the last two years that the expenditure had considerably diminished, that for 1841 being 2133*l.*, and that for 1842 1686*l.*, exclusive of the purchase-money paid to Government. Through the low price of labour and materials, two important lines of road had been made for 350*l.*, which between the years 1836 and 1840 would have cost about 2200*l.*—The report having been read, the CHAIRMAN entered into a very detailed statement of the position of the company, which he could not help thinking much more improved than in former years.—The SECRETARY read an address from the settlers at Stanley, in which they expressed their gratitude to the company for the comforts that now surrounded them, and hoped they would not withdraw their protection from the settlement.—Lord MOUNTCASHEL entered into a long argument respecting the affairs of the company, and advised a committee of inquiry to be appointed, to examine into the present and future prospects of the company, during which he observed that it was not out of any distrust to their respectable body of directors, but because he thought, if the committee went carefully into the business, they might derive some means of getting rid of the lands in larger quantities, and at a greater advantage.—The CHAIRMAN had not the least objection to the committee, and promised every assistance from the board, but as to more energetic measures, the noble lord must be aware that their expenditure had been so limited by him and other gentlemen, that greater efforts were not made for fear of the outlay in case of disappointment.—After some consultation between Mr. Hankey, Mr. Pouncey, Mr. Capel, and other proprietors, a motion was agreed to for a committee, to inquire into the present state and future prospects of the company.—The CHAIRMAN said he hoped the combined talent would produce some plan that would benefit the company.—Lord Mountcashel, Mr. Pouncey, and Mr. Ricardo were then appointed as the committee.—After a short conversation on the plans adopted by various companies, and other subjects, a vote of thanks was passed to the chairman and directors, on the motion of Mr. BRUCE, seconded by Mr. CAPEL, when the meeting adjourned.

ROYAL MAIL STEAM-PACKET COMPANY.

A numerous meeting of the proprietors in this company was held at the London Tavern, Bishopsgate-street, on Thursday, the 30th ult. J. IRVING, Esq., in the chair.—The CHAIRMAN having stated that a satisfactory arrangement had been made with Government relative to the conveyance of the mails to Barbadoes, by which seven days would be allowed for the reception of the bag, Captain Chappell (the secretary) read the report, which stated that it was generally admitted that the original project of the company embraced too extensive a sphere of operations, and that, in consequence, the directors had brought the subject under the consideration of Government, with a view to obtain either an additional grant of money, or such a reduction of the steaming and consequent expense as might afford a reasonable prospect of making it remunerative; and they permitted such curtailment of its operations as encouraged the proprietors to persevere in the undertaking. The disbursements of the last quarter of 1842 did not exceed 17,646*l.* per month, being a saving of 7137*l.*, and there was no doubt that a further saving would be effected. The report then went at great length into a detail of the arrangements made for the various routes of the company's ships, as approved by the Lords of the Admiralty.

The balance sheet was then produced, which showed an aggregate loss of 79,796*l.* 16*s.* 9*d.* to the 31st of December last; but the directors calculated that the future working of the company would not exceed 230,000*l.* per ann., and the receipts may be fairly calculated at 325,000*l.*, thus leaving 135,000*l.* applicable to wear and tear and dividend.—Dr. BOWRING objected to the proprietors being called on at once to give their consent to the report; and moved a resolution to the effect that the report and accounts be printed, and, in order to give time for consideration, that the meeting do adjourn to Monday, April 10.—Captain SWEENY seconded it, and complained of the way in which the money was expended, and of the paying large sums for insurance, which might be avoided.—Another PROPRIETOR complained of incivility on the part of all the officers, even from the crews and captains to the secretary.—After much discussion, an amendment was proposed and seconded, and the report was adopted.—The directors and officers for the ensuing year having been elected, a vote of thanks was passed to the chairman, and the meeting broke up.

YORK AND LONDON ASSURANCE COMPANY.

The annual meeting was held on Thursday, the 23d ult., in the Savings' Bank, Derby. The meeting was very numerously attended, and was addressed by several shareholders, when (after a long and protracted discussion) the resolutions proposed by the board of directors were unanimously adopted. This company now only carry on the life department, having disposed of the fire business to the London Imperial Office. The report of the management made by the directors seemed generally approved of, and the course pursued, which had been the same as that taken a few years ago by several of the now most respectable life offices, was deemed judicious, and calculated materially to increase public confidence and the security of the holders of life policies, as well as to protect the proprietors from hazard so great as that of assurance against fire necessarily involves. A deputation from the committee of shareholders residing in and near Derby also attended, and an opinion having been expressed that advantage would arise from the appointment of directors having influence in distant parts, which was favourably met by the present directors, as well as by the meeting, William Baker, Esq. (of Derby), was elected to fill one of the vacancies, and Benjamin Alger, Esq., was elected to fill another of such vacancies. The retiring directors having been re-elected, the business of the meeting concluded.

RAILWAY EXTENSION.—It appears, from the report of the officers of the railway department of the Board of Trade, that during the year 1842, nearly 200 miles of railway communication have been opened to the public throughout England and Scotland. Amongst the principal lines which have been opened, or only partially so, may be mentioned the Birmingham and Derby, to the extent of 30 miles; the Gosport branch of the South-Western Railway, 15 miles, the Edinburgh and Glasgow, 46 miles; the Manchester and Birmingham, from Stockport to Crewe, 26 miles; the Oldham branch of the Manchester and Leeds, 7 miles; the Bristol and Exeter, from Taunton to Bridgewater, 11½ miles; the London and Dover, to Tunbridge, 61 miles; the Sheffield and Manchester, 9 miles; the Northern and Eastern, to Bishop's Stortford, 3 miles; and the Eastern Counties, to Colchester, 51 miles.

THE BUDE LIGHT COMPANY.

The beautiful system of illumination which is now getting into very general adoption, known as the "bude light," and for which Mr. Goldsworthy Gurney obtained patents, is likely to supersede the present mode of lighting, not only in public buildings, churches, shops, &c., but even generally in private dwellings, where hitherto the use of gas has been avoided as inconvenient or dangerous.

A company is now being formed for the purpose of purchasing the patents, and disposing of licenses for its use—the owners of the patent having consented to receive shares in the company in full payment of the purchase money, thus giving convincing proof of their opinion as to the success of the undertaking. An agreement has been entered into with an eminent firm for the manufacture of all the apparatus necessary for the bude light, they paying to the company a per centage on all sums received by them, and an annual sum towards office expenses. The sources from whence the company is expected to derive a large income for the capital invested, are—the sales of licenses for the manufacture and vend of the bude light; its use in churches and public institutions, private dwellings, shops, &c.; licenses granted to gas companies; contracts with the districts in, and ten miles round, the metropolis; and from letting out, at an annual rent, the apparatus, chandeliers, burners, lamps, &c., necessary.

Its advantages and superiority over every other kind of illumination are numerous and apparent. It gives as much light as the best argand gas flames with only one-half the expenditure of gas, and only half the heat is consequently disengaged, with a doubly illuminating power. It simplifies amazingly the system of lighting, concentrating in one flame as much light as will diffuse throughout a large apartment a mid-day lustre, which can be reflected by mirrors in any direction, and softened by shades of every hue; and the trifling heat it generates acts as an excellent ventilator, the single tube which carries off the consumed gas taking away the effluvia from a crowded room; and this property will no doubt be the means of its introduction generally into private dwellings, as much objection has existed against the heat of the hydrogeneous London gas, so unlike the highly carburetted gases of Edinburgh and Glasgow. In the House of Commons, the saving by the use of the bude light has been at the rate of 480*l.* 9*s.* per annum. It is also in use in many churches and club houses, the Polytechnic Institution, several first-rate linendrapers' shops, &c.; and there can be but little doubt that its superior brilliancy, cleanliness, and economy will bring it into use in every corner of the kingdom.

SCOTTISH AMICABLE LIFE ASSURANCE SOCIETY.

It is with pleasure we call attention to the gratifying information contained in the following report of this very promising society. It appears that while it has had the good fortune to have an amazing scarcity of deaths among its members during the past year, it has, notwithstanding the great and general depression of trade, added a greater number of new members to its list, than during any former period; this speaks volumes in its favour, and the principles upon which it is conducted, securing the profits to the policy holders, by the mutual system, appears to have attracted the attention of that portion of society who endeavour, by economising their resources, to provide something for a "rainy day," or a portion for their wives and families in the event of their decease. The annual meeting was held at their rooms, 141, Buchanan-street, Glasgow, on Thursday, the 23d ult., John Alston, Esq. (of Rossmont) in the chair. Mr. Spens (the manager) read the report, from which it appeared that the number of new policies issued, and the amount of capital sums insured, were both greater than in any previous year since the society was established, and that the sum of claims from deaths was only about 30 per cent. of the estimated amount.—Mr. R. Knox attributed the prosperity of the company to the prudence and activity of the directors, as well as to the careful manner in which their very economic tables had been drawn up, and moved a vote of thanks to the directors, which was seconded, and carried unanimously.—Robert Jameson, Esq., in returning thanks, noticed the present satisfactory state of the society's affairs, as a proof of the great confidence of the public in its stability and utility; the claims last year amounted only to about the proportion of 1*l.* out of 150*l.* assured. He stated that by assuring in this society, members of the better class of mechanics, foremen in warehouses, and others, who had wages from 21*s.* to 25*s.* per week, might be enabled to secure to their families, in case of their death, a sum of from 80*l.* to 200*l.*, by a very small payment, those classes had not yet seemed to appreciate the advantages of life assurance; he was anxious to see the benefits extended, as they not only traded to their own good, but to that of society at large.—Arthur Forbes and John Alston, Esqs., were then elected ordinary directors, and Sir James Ramsay, Bart., R. Stewart, Esq., and J. Dundas, Esq., extraordinary directors, in the room of those who retired, and the meeting broke up.

EASTERN COUNTIES RAILWAY.—The further opening of this railway, from Brentwood to Colchester (now the distance of 51 miles), took place on Wednesday inst, when the directors and a large party of friends proceeded, in a train from the London terminus, to commemorate the event, at the Town-hall, Colchester—the mayor and corporation of that borough having provided an entertainment for that purpose. The train left Shoreditch at 11 o'clock, and travelled at an easy rate, arriving at the stations in the following time:—Stratford, 19 min.; Ilford, 22m.; Romford, 34m.—here was a stoppage of eight minutes; Brentwood, 52m.; Chelmsford, 1h. 40m.; Witham, 2h. 4m.; Kelvedon, 2h. 10m.; Colchester, 2h. 40m. The weather being fine, and the train and general arrangements exceedingly well managed, the trip was a particularly agreeable one. On their arrival at Colchester, the company proceeded to the Town-hall, where the chair was taken by Sir H. Smythe (M.P. for the borough), supported by H. Bosanquet, Esq. (chairman of the company), and most of the directors. After the usual loyal and congratulatory toasts, the health of Mr. Braithwaite, the engineer, was proposed by the chairman, who complimented him very highly on the ability and perseverance displayed in the construction of the various works on the line, and alluded to the strong terms of commendation bestowed by General Pasley on the railway generally.—Mr. Braithwaite, in the course of his address, cordially acknowledged the support he had at all times received from the directors, and referred to further extensions of the line, which was received with considerable applause.—Mr. R. Crosbie (one of the directors), in proposing the last toast, said that he had dined on the previous evening with his family, at Liverpool, and hoped to be able to breakfast with them on the following morning—thus accomplishing the distance (220 miles) in the time it formerly took to travel, by a well-appointed coach, from Liverpool to London.—The party then left for town, unanimous satisfaction being expressed with all the arrangements that had been made for their entertainment.

STEAM NAVIGATION—IMPROVEMENT IN PROPULSION—*(From a correspondent.)*—A trial, on a small scale, has been made at Liverpool, of a new principle in the propelling apparatus of steam-vessels. The vessel in which the experiment was made was the *Badajoz*, a small yacht of 154 tons burden, built by Mr. M'Ardle (a gentleman attached to the City of Dublin Steam Company), under the superintendence of Mr. J. C. Shaw, also connected with that extensive concern. Mr. M'Ardle is the inventor of the plan, which consists of an axle, provided with fanners or blades, placed in a peculiar position, and revolving in an aperture in the dead wood of the stern; this propeller is turned by two four-horse engines—also on a new principle, the cylinders moving from side to side on joints below, so that the piston rods pursue and act upon the cranks, without the necessity of the parallel gear required in upright fixed cylinders. The principle seems to be well adapted for canal boats, inasmuch as there is no surge made in the wake, or at the sides, as with the paddle-wheel, to wash against and break down the banks. The inventor is of opinion that the propeller may be altered and modified, so as to be more peculiarly suitable, either for canal craft or sea-going vessels.

SONS OF THE THAMES STEAM COMPANY.—We attended at the appointed place of meeting, on Wednesday last, when, contrary to expectation, all interest in connection with the important subjects it was understood would have been discussed, appeared to have evaporated; for, after waiting a considerable time, a sufficient number of shareholders could not be mustered, so the meeting was adjourned until a late hour in the evening. It further appearing to us, on consulting some parties connected with the company, that an amicable understanding had been arrived at, we deemed our time of too much consequence to waste over the affairs of those who evinced so little interest themselves.

IMPORTANT TO GAS AND WATER COMPANIES.—On Thursday last Mr. Hardwick gave his decision upon the point which had been raised by the Equitable Gas Company, respecting the clause in the Paving Act, requiring three days' notice before breaking the pavement for laying service-pipes (as noticed in this Journal at the time of hearing).—Mr. Baker, on the part of the company, said, all he wished was to stand free from misapprehension; they would willingly concede to the three days' notice, on the understanding that the same rule should be strictly adhered to by the other companies: for instance, if they gave three days' notice, the board must not allow another company to come in and secure an important customer.—Mr. Bodle, on behalf of the paving board, contended that, if the companies were not obliged to give those days' notice, in conformity with one of the clauses of the act, there was an end of the powers of paving boards; and it would be necessary to obtain a fresh Act of Parliament. As the question was important, and connected with another (relative to laying down service-pipes) now before the Court of Queen's Bench, he trusted the magistrate would collect a nominal fee, in order that the whole might go before that court.—Mr. Hardwick considered the company were bound to give three days' notice; and, as they had not done so, he should inflict a nominal fine of 1*l.*, three leaving each party at liberty to pursue what further steps they may deem advisable, to bring the dispute to a settlement.

GOLD IN RUSSIA.—It appears that the quantity of bullioned gold obtained in the Russian dominions, which in 1839 was 4710 kilo., had increased in 1842 to 19,490 kilo.

MEETINGS OF SCIENTIFIC BODIES,

IN THE ENSUING WEEK.

SOCIETY.	PLACE OF MEETING.	DAY.	HOUR.
Entomological	17, Old Bond-street	Monday	8 P.M.
British Architects	16, Grosvenor-street	Monday	8 P.M.
Medical	Bolt-court, Fleet-street	Monday	8 P.M.
Linnæan	Soho-square	Tuesday	8 P.M.
Horticultural	21, Regent-street	Tuesday	2 P.M.
Civil Engineers	25, Great George-street	Tuesday	8½ P.M.
Chemical	Society of Arts, Adelphi	Tuesday	8 P.M.
Society of Arts	Adelphi	Wednesday	7½ P.M.
Geological	Somerset House	Wednesday	8 P.M.
Zoological	57, Pall-mall	Thursday	3 P.M.
Royal	Somerset House	Thursday	8½ P.M.
Antiquaries	Somerset House	Thursday	8 P.M.
Royal Institution	Albemarle-street	Friday	8½ P.M.
Botanical	20, Bedford-street, Cov.-g.	Friday	8 P.M.
Royal Asiatic	14, Grafton-street	Saturday	2 P.M.
Royal Botanical	Regent's-park	Saturday	4 P.M.
Westminster Medical	Exeter Hall	Saturday	8 P.M.
Mathematical	Crispin-street, Spitalfields	Saturday	8 P.M.

PUBLIC COMPANIES.

MEETINGS.

Ashby de la Zouch Canal & Railway	Ashby de la Zouch	April	3	11.
British Fire Company	Office, Strand		5	1.
East London Water Works Co.	16, St. Helen's-place		5	12.
Argus Life Assurance Company	39, Throgmorton-street		6	2.
Miners' Company	Office, 57a, Old Broad-street		8	1.
Tincroft Mining Company	44, Finsbury-square		11	2.
Blaenavon Iron and Coal Company	Offices, 4, Pancras-lane		28	2.
London and Birmingham Railway	Euston Hotel	May	1	12.

DIVIDENDS.

Tincroft Mining Company	10s. per share	44, Finsbury-sq.	April	8.
Tamar Silver Lead Mining Co.	5l. per cent.	44, Finsbury-square		19.

NOTICES TO CORRESPONDENTS.

The MINING JOURNAL *is regularly published about Two o'clock on Saturday afternoon, at the office, No. 26, FLEET-STREET, where it can always be obtained, and there is no cause for irregularity in its supply, in town, other than neglect on the part of the agent through whom it is ordered; but, as respects its transmission to country subscribers, the blame is shared with the Post-office authorities.*

PRICES OF MINING MATERIALS.—With the assistance of an esteemed correspondent, we are enabled to lay before our readers, in another column, that great desideratum—a correct report of the "Current Prices of Mining Materials," as paid by several of the principal mines in Cornwall. This feature cannot fail being appreciated by most of our readers—more especially those connected with companies whose seat of management is located at a distance from the district in which their operations may be carried on, as affording an effectual check on those gross overcharges which have been mainly instrumental (in times gone by) in creating a feeling of distrust in the minds of honourable men towards mining adventures. We shall be glad to receive communications on the subject, and, where corrections may be necessary, to make alterations, on satisfactory authority.

"A Subscriber" is anxious for information respecting the Mulfrey Hills Mining Company. Any particulars that may be furnished, from an accredited source, will be promptly inserted.

IRON TRADE.—We should be glad to receive the statistical statements, as proposed by our Worcester correspondent, but cannot pledge ourselves to their insertion until we have had an opportunity of examining into their merits and utility. If unsuited to our columns, the manuscript shall be returned.

"A Subscriber" (York).—The Thames Tunnel was opened on Saturday last, and a statistical notice of the stupendous undertaking was inserted in that day's Journal.

"W. T." (Bath).—We heard, a few weeks' since, that West Treasvean was about being again brought before the public—a step which certain parties had been induced to take, from favourable representations made to them from Cornwall; but we are unable to recommend our correspondent as to the course he should take—perhaps an application to Mr. W. M. Thomas or Mr. Tribe might elicit the necessary information. We should recommend caution in this, as in all other projects, at the present moment, when a reaction is evidently taking place in mining adventures.

"An Agent" (Redruth).—We expect the notice alluded to will appear in the course of a week or two—at least, so we are advised; and recent returns add probability to the assumption of the directors.

"M. E."—Address C. Manby, Esq., Institution of Civil Engineers, London, from whom the required information can be readily obtained.

"J. W."—The papers have not appeared, and, we believe, are not likely to appear, in any other form, or through any other medium, than our Journal. Any comments "J. W." may wish to make on the subject, of which he expresses himself so warm an admirer, we shall be happy to receive.

T. Deakin (Blaenavon).—Mr. Rogers, of Nantyglo, will readily render the additional information required by our correspondent, on the subject of his "Proposed Remedies for Relieving the Distress in the Mining and Manufacturing Districts," as detailed in our Journal of the 11th ult., which he has collected and arranged in a pamphlet form. Mr. Rogers will, doubtless, be thankful for, and glad to attend to, any suggestions made to him on the subject, which appears so deeply to interest him, and which is one that will require much time and considerable experience ere it can be sufficiently matured to have the desired effect.

We will endeavour to procure the information required by an "Old Subscriber" for the next Journal.

"M." (Leith).—The largest known diamond is in the possession of the Emperor of the Brazils—it is valued at 3,500,000l.; and the Emperor of Russia has the one next in worth. They augment immensely in value as they increase in weight: thus, a fine brilliant of one carat is, probably, worth 8l. or 9l.—of two carats the price would be about 30l.—of three carats 70l. or 80l.—of four carats 130l.—of five carats 200l.

More extensive premises than those lately occupied being found necessary, the establishment of the *Mining Journal* is REMOVED TO 26, FLEET-STREET (opposite St. Dunstan's Church).

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, APRIL 1, 1843.

**** Parties desirous of ordering the *Mining Journal*, can do so, either direct to the office, or through any newsvendor or bookseller in town or country. Notices of irregularity in its delivery are requested to be forwarded to the office where every endeavour will be made to rectify the cause of complaint.

We are well pleased to find that the "smoke nuisance" is attracting attention, not only on the part of the public, but with those who, with scientific acquirements, possess the means, to a certain extent, of obviating its ill effects. In our Journal of to-day will be found letters from correspondents bearing on the subject, in which the principles, or adaptation, secured by patent by Mr. C. W. WILLIAMS, Mr. IVISON, and Messrs. KYMER and LEIGHTON, form a prominent feature. We purpose, therefore, taking some brief notice of the several patents, leaving out of consideration that to which Mr. JOSEPH WILLIAMS, of Liverpool, lays claim, and which, from the evidence before us, we are disposed to believe is not only a deception which he allows to be practised on others, but in which, we fear, he himself indulges.

With reference to the letters of our correspondents, we have only to refer to the several papers which have appeared in the Journal touching on this important subject—the saving of fuel, and consumption (or avoidance) of smoke. It will be found that not only has IVISON'S patent (as it is applied in Edinburgh) been fully described, but that the patent of Mr. C. W. WILLIAMS has also met with the same attention, as well as that of KYMER and LEIGHTON'S, and, lastly, Mr. JOSEPH WILLIAMS; in each case not only attention having been directed and paid to the several patents, but that the observations made in our columns have been the result of personal inspection.

As relates to IVISON'S patent, we have merely to observe, that the evidence afforded only confirms the representations which have appeared in our columns—there being no question as to the saving of fuel, on the subject of which we must refer to the article treating on the subject; while it may not be amiss to direct attention to the contrast afforded by the application of IVISON'S patent, with reference to the common furnace, as evinced by a report now before us. We learn from this that the engine, working 35½ hours, emitted, during that period—dense smoke, four minutes; half dense smoke, thirty minutes; smoke, scarcely visible, seventy minutes; the period while no smoke was issued being 2026 minutes.

Let us, for a moment, contrast this with the working of the engines without the application of the patented process. We then find, that in working them for 20½ hours, the dense smoke was 507 minutes; that of thick, or half dense, smoke, 540; smoke visible, 183; thus showing, that during such trial the smoke was in no way consumed.

The question of the consumption of fuel under the several patents and under ordinary circumstances, is a point on which we do not propose touching on the present occasion, but which have been entered upon at length in Mr. WEST'S pamphlet, as also in our columns. With reference to Mr. C. W. WILLIAMS'S patent, we have to direct attention to the letter of Mr. J. A. EMSLIE, C.E., who has, in common with ourselves, had an opportunity of inspecting it. We regret that his exposition is not more perfect, and that time did not allow him to enter more minutely into the merits of the invention, inasmuch that his letter is merely but a repetition of those observations which have already appeared in the Journal; however, additional evidence from one who is, we believe, well able to form a correct judgment, must be considered as acceptable to the patentee, while it cannot be considered otherwise than satisfactory to the community at large, who are so much interested in the question.

We now arrive at the patent lately secured by Messrs. KYMER and LEIGHTON, and, in directing attention thereto, we have to refer to the correspondence of to-day, by which it will be apparent the important saving which its application will afford. According to the letter of Mr. KYMER (one of the patentees), we find that the consumption of fuel is reduced in the proportion of five to three, while another correspondent informs us that anthracite can be delivered in London at 15s. 6d. per ton. We do not, however, believe that such can be the case, but assuming that even 18s. would be an equitable figure, the saving in quantity would be a great consideration to the consumer, while the absence of smoke is a desideratum on the part of the public.

It is not our province to uphold the patent of any one party, or to decry the inventions of others—and thus are we content with placing before our readers their several claims; at the same time we should not but advert to the assumed right of Mr. JOSEPH WILLIAMS, of Liverpool, who, availing himself of the cognomen of Mr. (CHARLES WYE) WILLIAMS, his brother townsman, has, to a certain extent, imposed on the public a patent, to which, we believe, he has no direct claim or interest.

The increase of correspondence of late precludes us from entering upon the subject so fully as we should desire; but, having the several patents before us, as also others, which have for their object the economy of fuel and consumption of smoke, we purpose again reverting to the subject on an early occasion, and in the meantime shall feel obliged by any communications tending to elucidate the matter in question.

It is now some weeks since we directed attention to the formation of a society having for its object the mutual protection of the interests of patentees, which, we are glad to find, has already made some progress in its objects, and may be expected to come before the public in a tangible shape ere many days elapse. We have before us the minutes of proceedings entered into at a meeting lately held, when the basis of the institution was determined upon, and a sub-committee formed to carry out the measure; but we feel it would be premature to make more than a passing remark on the present occasion. The case of the Househill Coal and Iron Company, reported in our late Numbers, is sufficient in itself to illustrate the value and importance of a society of this nature, having for its object the protection of patents; at the same time that, aided by legal advice and experience on the part of the council, in intricate cases connected with the law of patents, it is only natural to presume that much expense will be saved and litigation avoided.

RAILWAY STATISTICS.

The annexed statement (taken from Mr. T. Allsop's last circular) shows the cost of construction, cost of working, and the receipts per mile, on seven of the principal lines; together with the receipts for the last week, as compared with the corresponding period of last year. These figures are taken from the accounts last rendered by the respective companies, and, as they are not made up on common principles, offer but incomplete data upon which to estimate the value of the respective lines, which value can only even be approximated by inquiry, research, and by accurate comparison and analogy:—

Name of railway.	Cost per mile.	Expenses per mile.	Receipts per mile per week.
London and Birmingham	£54,8[illegible] 4 3	£3,0[illegible] 11 4	£1[illegible] 17 9
Manchester and Leeds	61,[illegible] 16 0	1,[illegible] 8 9	61 13 8
London and Brighton	53,8[illegible] 4 5	[illegible] 9 9	[illegible] 3 8
Great Western	55,3[illegible] 16 0	[illegible] 4 1	79 19 4
South Western	27,[illegible] 18 0	7,[illegible] 13 4	7[illegible] 13 0
North Midland	43,[illegible] 1 8	1,[illegible] 11 0	[illegible] 16 1
Northern and Eastern	[illegible] 14 0	1,[illegible] 0 0	43 15 0

Comparative receipts for the weeks ending Feb. 24, 1843, and Feb. 25, 1842:—

	1843	1842
London and Birmingham	£15,[illegible] 18 0	£15,[illegible] 11 11
Manchester and Leeds	4,[illegible] 8 9	3,[illegible] 0 0
London and Brighton	1,[illegible] 0 0	2,[illegible] 0 4
Great Western	[illegible] 17 11	10,[illegible] 13 9
South Western	4,[illegible] 3 6½	4,[illegible] 3 3
North Midland	3,[illegible] 0 0	3,[illegible] 13 10
Northern and Eastern	[illegible] 14 0	1,[illegible] 0 1

NEW ACID OF SULPHUR.—At the sitting of the Academy of Sciences, on the 13th ultimo, M. Pelouze read a report of the discovery of a new acid of sulphur, recently made by Messrs. Fordos and Gelis. The experiments performed by these gentlemen have been repeated by the commission of the academy appointed to report upon the discovery, and the same results have been obtained, leaving no doubt, from the tests applied to them, of the existence of this acid in the compound indicated by them. The series of the oxygenated combinations of sulphur, to which sulphyposulphuric acid was added by M. Langlois, about two years ago, has received the addition of a new acid; thus, consequently, making the number of its compounds six.

THE MEXICAN PROCESS OF AMALGAMATION.

Mr. Phillips, the secretary of the Real del Monte Mining Company, and who has lately returned from Mexico, delivered a lecture at the Western Literary and Scientific Institution on Thursday, the 30th ult., on the present mode of amalgamation adopted in the Mexican silver mines. The lecturer stated that he was induced to come forward on the present occasion, from having understood that the institution was in a depressed state, and he thought, by lending a helping hand, he might do something for the general good. From the nature of the subject, it would be a mere outline of the general processes, and he must trust to the indulgence of his audience while he would endeavour to render the subject as clear as possible. He prefaced his lecture with a slight review of the history of the country, from its discovery by Columbus in 1481, the treatment of the natives at the hands of the invaders, and the physical and moral effect such treatment had produced on the national character. He observed that the grandeur of Nature in Central America was unsurpassed by any other country in the world; the height and extent of mountains—the gigantic vegetation—the noble rivers and lakes, which might, with propriety, be called inland seas—all tended to inspire the most sublime ideas on first traversing this interesting country. We have only space just to notice the various points on which the lecturer touched—the geographical position of the mines, the nature, size, run, and quality of the veins, and the matrices, the general manner of working the mines, drainage, &c. He remarked on the magnitude of some of the establishments called "haciendas," one of which, at Fresnilla, was 451 yards long by 378 in breadth, and then came to the process of amalgamation, which, though it has been in use for the long period of 285 years, has received but little improvement, though many scientific men have turned their attention to the subject, and it would appear that this mode of obtaining the silver from the ores is inseparable from a great loss of quicksilver.

The lecturer alluded to the attempts of M. Becquerel to extract the metal from the ore by galvanism, and said, if any new process was brought into operation, it would be by the powerful agency of electricity. After the ores which are too poor to smelt are broken small at the stamps, they are taken to the arrastre, and ground to a fine powder; this powder is then mixed with water into a thick paste; it is then taken to the amalgamation floor, called "torta"—and some of the haciendas are sufficiently large to have nine or ten of these tortas, of sixty tons, spread in them, to a diameter of forty to fifty feet each, and about one foot deep. A quantity of common salt, in the proportion of 50 lbs. to the ton of ore, is then spread uniformly over the mass, and trodden in by mules, until the whole is well worked; they are then left undisturbed for a few days. A quantity of *magistral* (sulphate of copper and iron), 25 lbs. to the ton of ore, is then well worked up with the mixture; a chemical action immediately commences, and it is at this point of the process that the experience of the overlooker is required. If there is not sufficient heat, more magistral is added; if too much, quick lime is strewn over, to neutralise the too great effect of the acids. When in a proper state, the quicksilver (at the rate of 3 lbs. for every estimated ¼ lb. of pure silver) is poured over the torta, through linen cloths, in the form of rain; it is well trodden together by the mules, and generally takes from fifteen to thirty days—according to the weather, before it is ready for the washing tanks, here it is continually trodden by men, a stream of water running through, until all the slime is carried off, and the clear liquid amalgam remains behind. This amalgam is then pressed in linen bags to get rid of the uncombined quicksilver, and the remainder pressed into moulds, and formed into a wedge-shaped brick; the bricks are then built in a circular pile, with a hole in the centre, over which a bell-shaped copper vessel is placed, and a charcoal fire being lit around it, the quicksilver in the bricks is volatilised, and, condensing, falls into a tank below, leaving the silver pure. The lecture was numerously and respectably attended, and listened to with much attention, and the models, specimens, &c., with which it was illustrated, gave great satisfaction.

ON THE PROGRESS AND PRESENT CONDITION OF GEOLOGY IN THE UNITED STATES.—As a proof of the little that was known respecting geology in the United States, in 1806, Professor Silliman stated that the most common minerals were then known to but few; that most of the rocks were without a name, except so far as they were quarried for economical purposes; and that the classification of strata was quite unknown. But it is sufficiently apparent, from the numerous societies, and works and papers that have appeared within the last twenty-five or thirty years, that geology has now become a favourite pursuit; and, during the past fifteen or twenty years, many of the local governments of the different states have caused to be instituted geological surveys of their respective territories—all of them appropriating public money to the great object in view. State collections, illustrating the geology and mineralogy, and, in some instances, the zoology and botany, of their several provinces, are also formed and forming in the respective local capitals. In the neighbouring countries of Nova Scotia, New Brunswick, and Canada, explorations have been for some years in progress; and, in many parts, great treasures, of coal, grit-sandstone, iron ore, and plaster of Paris, have been found. The results obtained in the United States for scientific geology have been highly satisfactory, as is evident on inspecting the various reports of the state geologists, &c.

ELEVATION AND SUBSIDENCE OF THE EARTH'S STRATA.—In the course of Mr. Lyell's interesting lectures on geology, at the Marylebone Institution, he adverted to the principle of elevation and subsidence of the strata of the earth, illustrating that principle by a lucid and scientific history of the manner in which coral reefs were raised in the Pacific Ocean, of the nature of the zoophyte, or animal plant, which deposited the coral matter, and of the general striking features of the geological phenomena to which they gave rise. One amongst the interesting facts mentioned by the learned lecturer was, that those coral reefs increased in proportion to the violence of the breakers of the sea upon them, a violence which neither flint, quartz, nor granite could withstand. Those reefs were reared up by their myriads of little living inhabitants, which were constantly employed in the work of reconstructing and improving their dwellings. In describing the atolls, or ring-shaped reefs, with their lagoons (whose vivid and emerald waters presented a beautiful contrast with the deep blue of the surrounding ocean), the lecturer mentioned that in the varied coloured fishes of these lagoons was found digested coral, which, when dried, was ascertained to approach very nearly in its chemical qualities to the chalk of the Bermuda Islands and other parts of the world.

BRITISH WATCH AND CLOCK MAKERS' COMPANY.—A company has been for some time in course of formation for the purpose of manufacturing all the various portions of watches and clocks by machinery, and which has met with severe opposition from the trade in general. In the House of Commons, last night, on the order of the day being read for the second reading of the British Watch and Clock Makers' Company's Bill, Mr. Ellice presented a petition from Coventry, signed by 900 names, against the bill, praying the house not to create a new monopoly; and stating that the invention, which had been taken up by the promoters of the company, had been twice tried in France, and signally failed, although the trials had been under the most distinguished patronage.—Mr. T. Duncombe also presented a petition, with a prayer to the same effect, which had been agreed to at a meeting held at the Crown and Anchor Tavern, on the 29th ult.—Mr. Ward, who introduced the bill, and moved the order of the day for the second reading, defended himself from any personal interest in the affair; but contended that every branch of the watch trade in England was in a most depressed state, and that this company, instead of doing injury, would enable the manufacturers here to compete with those on the continent, and thus insure a large increase of trade. He further stated that two sets of the machinery could do the work of 300 men.—Mr. T. Duncombe assured the house that the opposition of his constituents did not arise from factious feelings. They were not in the least afraid of its affecting their trade; but they wished to show to the world that, of all humbugs this was the greatest. He then went through a history of the company, from the issuing of the prospectus, in October last; and said that as yet not a single share had been applied for. He concluded by moving "that the bill be read a second time that day six months."—Mr. Gladstone supported the bill.—After observations from several members, the house divided, when the bill was thrown out by a majority of 77, in a house of 231.

GIGANTIC FOSSIL.—A fine specimen of what the geologists term the Plesiosaurus Macrocephalus has recently been found in the lias formations at Barrow-upon-Soar. It measures fourteen feet in length, and is the only one of the kind that has been found in that neighbourhood. This species is by no means common, and it is as singular as it is rare—the neck of the animal appears to be nearly as long as the body, while that of the Ichthyosaurus is just the reverse, having a short neck and very long tail. It may justly be termed the king of Mr. Lee's collection, and many of the curious have already paid him a visit to behold this wonderful production of a former world.—*Derby Reporter.*

ORIGINAL CORRESPONDENCE.

MR. CHARLES WYE WILLIAMS'S PATENT ARGAND FURNACE.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—On the occasion of a recent visit to Liverpool, I was favoured by Mr. Chas. Wye Williams with an inspection of his patent argand furnace, in operation—experimental furnaces of the most complete nature, showing the applicability of his principles of combustion to marine, as well as to land, furnaces, being fitted up in premises adjoining the Clarence Dock.

The fires were but newly lighted when I arrived; but not the slightest appearance of smoke was to be observed issuing from the chimnies; the combustion of the fuel was then proceeding in accordance with Mr. Williams's patent. The furnaces are fitted up with sight holes in several portions of the flues, and never was a plan devised of so much simplicity for observing, with accuracy, the process of combustion under all circumstances. The chemical properties of fuel devolved are easily observable, with attention; and, in fact, roads to the highest philosophical reasoning, and most interesting course of study and amusement, are opened out by the mere addition of these holes, so scientifically affixed by Mr. C. W. Williams to his furnaces.

The experimental furnaces of Mr. Charles Wye Williams (as most of your readers, I dare say, are aware) are likewise fitted up with the pyrometer of Mr. C. Houldworth's invention. Its indications of change of temperature in the flues, and, consequently, of the degree of evaporation going on, are instantaneous; no surer index of the quality of a fuel, or of the excellence, or otherwise, of the construction of a furnace, could be desired. Simplicity and efficiency are its attributes.

It may be observed, that the furnaces are made to resolve themselves into the common principle of construction, by the mere closing of the aperture leading to the perforated plate, situated behind the bridge. I have previously said, that, on my arrival at the works, the chimnies were entirely without smoke, and that the patent process of Mr. Williams was then in operation. The index of the pyrometer was high and steady, and the appearance of the flame very long and beautifully transparent. The door leading to the patent apparatus was then closed, and instantly a dense mass of smoke was evolved, and the whole way along the flue, back to the bridge, was darkened, exhibiting, in parts only, the appearance of flame, and that of a dark crimson gold-like colour. The index of the pyrometer fell back many degrees; and the water evaporated was considerably diminished. The door of the aperture leading to the patent apparatus being opened, the smoke left the chimney, like the puff of a cigar-smoker, and all was clear; not the slightest indication of even a gas escaping. As instantaneously, the pyrometer rose; and the brilliancy of flame in the flue was restored. This was repeated many times, under as many circumstances, with exactly similar effects. No clearer illustration of the value of the apparatus could be afforded; nor, I am sure, could be desired.

I was not enabled, from being limited in time, to take accurately the consumption of fuel, in equal spaces of time, by the different systems, but it has been exhibited, and I have no doubt correctly, by several who have viewed the furnaces in operation. To those at all conversant with the matter, it cannot but be apparent, that when the carbonaceous particles ejected from the chimnies by the old system, are, upon the new, turned into a useful material of combustion, as also the numerous gases evolved therewith, are properly inflamed, by an admixture of air being admitted in such manner as to meet with perfect distribution among the gases at the right place, that a considerable amount of additional heat must be given off, and, consequently, a saving for obtaining an equal result effected—in my opinion equal to about 20 per cent.—a consideration of immense importance, particularly to our steam marine. The apparatus of the patent is remarkably simple and durable, and not by any means expensive; a set, after being several years in use in a steam-vessel, whose name I now forget, was shown to me, and it had not the slightest appearance of being burnt, or injured by use in any way, the sharpness of the casting being as apparent as at the first hour.

It has been said that Mr. C. W. Williams's furnace is imperfect, from the fact of its smoking at the period of fresh fuel being put on; this very allegation shows, indeed, the value of the contrivance, and which I myself tested. It is not the putting on of the fuel that causes the smoke, for I feel assured if the furnace were fed by means of a hopper, this would not ensue, but it is the admission, in consequence of the door being open, of a large body of air over the flame to the gases in an undivided form. The furnace being then, in fact, for an instant, nearly similar to the original furnace; ensuing, from this circumstance, imperfect combustion, and, consequently, a great emission of smoke. The opening of the door for an instant, and as quickly closing it, drives off a puff of smoke, whatever the state of the fuel, and, therefore, shows the beneficial effect of the patent apparatus in the most perfect manner. From being fully convinced that the principles of the patent argand furnaces are founded upon high philosophical reasoning, and that their efficacy, simplicity, and durability, have rather been under than overrated. I have great pleasure in adding this slight testimony of my appreciation of its merits to the intent already expressed by me of recommending its adoption whenever an opportunity is afforded.

James A. Emslie, C.E.

P.S.—I noticed in Mr. Williams's experimental marine boiler, a contrivance not dissimilar to Mr. Kymer's recently patented invention for burning anthracite. As I understand Mr. Kymer is patenting for a principle, I would draw his serious attention to this.

London, March 29.

ANTHRACITE v. BITUMINOUS COAL—KYMER'S PATENT.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—In reply to your correspondent, "A Manufacturer," whose letter appears in last week's Journal, I beg again to refer him, in the first instance, to the statements which have already appeared in your columns (*see Mining Journal*, March 4, 1843). Anxious as I am to give the desired results, I am not yet prepared with such a statement, because, in the establishment where my furnace is in operation, there are several boilers, and the quantity of coal which each one requires separately has never hitherto been correctly determined. The engineer thinks, according to the best of his judgment, that the boiler I am now working consumed half a ton of bituminous coal per day, whereas now only 6 cwt. is used. I trust I shall very shortly have all the boilers on the establishment working with my furnaces, when I shall be glad to give the results to the public, through the medium of your excellent Journal. In the meantime, I have no hesitation in stating my conviction, that the saving is in the proportion of three to five—viz., that three tons of anthracite, with my patent, will do the duty of five tons of ordinary coal in a common furnace.

London, March 31. John Kymer.

[On subject of this patent, we have to direct attention to other letters in our columns of to-day, one of which has reference to the cost of anthracite delivered in London, from which it would appear, taken in conjunction with the representation of Mr. Kymer, that three tons of anthracite, such as he describes, might be delivered in London for 45s. 6d., which, in the proportion as three of anthracite is to five of ordinary coal, would give a price of 9s. 1d. per ton for the latter, so as to bring the two descriptions of fuel on an equality as to cost. With such evidence, it is hardly necessary for us to point out the economy attendant on the application of the patent.]

SUCCESSFUL APPLICATION OF ANTHRACITE—KYMER AND LEIGHTON'S PATENT.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I congratulate my brother shareholders on the cheering aspect of our affairs. The hopes which we have all along cherished of seeing anthracite brought into use for steam purposes seem at length about to be realised. The reports which reach me of the success attending Kymer and Leighton's application are very satisfactory; at the same time, I am given to understand, that Lejeune and Chambers's plan, which is about to be applied to one of her Majesty's steam-vessels, will quite eclipse the former. What Kymer and Leighton effect by a complete application of fans and indescribable fire-grates, Lejeune and Chambers accomplish simply by a jet of steam thrown into a partially closed ash-pit, producing equal results with greater simplicity. In addition to these, Mr. Wm. Long Wray has a plan, in comparison with which, he says, the others are mere bagatelles—at least so that gentleman has stated to our worthy secretary, Mr. Bigg. With all, or any, of these, I hope we shall, ere long, hear something of dividends; and that there is a prospect of the smoke nuisance being partially abated. I send this to your Journal, Mr. Editor, because you have so ably advocated the cause of anthracite; for which accept my best thanks.

London, March 27. A Leadhills Railway Shareholder.

[We should feel obliged by our correspondent furnishing us with further particulars as regards Lejeune and Chambers's plan, as also that of Mr. W. L. Wray. Should the latter gentleman think proper to transmit to us his plan, we shall be happy to give it publicity through our columns.]

ECONOMY IN THE USE OF ANTHRACITE COAL.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—In the London Coal Market list of prices, for the past week (as per *Mining Journal* of the 25th inst., now before me), I notice Garnant stone-coal quoted at 22s. per ton. In the same paper there appears a letter, signed "A Manufacturer," dated Union-street, Borough, making some inquiries as to economy in the use of anthracite, compared with bituminous, coal. The writer expresses himself as being satisfied there must be economy in the case of the former, but wishes to have some accurate data. He concludes by stating his opinion, that a description of anthracite, mixed with rubble, suitable for Kymer and Leighton's furnace, which he had been to see in operation, might be delivered in London, at 22s. to 23s. per ton. For the information of "A Manufacturer," I beg to direct his attention to the price of Garnant stone-coal, the finest description of anthracite up this valley. That sent to London is always the finest hand-picked coal. With the exception of one colliery at present working, it is subject to the highest rates for railway dues up this line.

I presume the coal to which "A Manufacturer" alludes would be Mr. Kymer's own coal, from Pantyfynnon Colliery (a mixed coal; in fact, what we here term culm). If so, I think Mr. Kymer should be satisfied with a price fully 5s. per ton under that of Garnant coal; but I am much afraid that that gentleman is aiming at turning to account a valuable invention for securing to himself a monopoly in the sale of coal. I have seen Mr. Leighton's plan of burning culm in operation frequently; and, being a shipper of culm, I should be glad to contract for the delivery of several thousands of tons, at Llanelly New Dock, at 7s. 6d. per ton, of an article well adapted to the purpose. This, with a freight of 8s. per ton (an ample freight, as times go) gives 15s. 6d. in the Port of London.

Mr. Kymer should reflect that, with the various ingenious contrivances now before the public, for the prevention of smoke from bituminous coal, something more than the mere absence of smoke will be looked for in the introduction of anthracite as a steam-coal, for which there now appears a fair chance, if not marred by cupidity. I trust a word to the wise may be sufficient.

A Shipper of Culm.

Cwm Amman, March 28.

[We are obliged to our correspondent for his communication, which only affords additional evidence of the importance to be attached to the patent, as being calculated to effect a considerable saving in cost of fuel. We are not aware at what rate Mr. Kymer proposes to deliver *his* coal, but presume that parties having made terms for the use of the patent, will go to the best market, without reference to the patentee's interests, who will look to remuneration from the use of his patent, the vend of his coal being a secondary consideration, more especially as the patent is held by Messrs. Kymer and Leighton, whereas the Pantyfynnon Colliery, if we mistake not, is the property of Mr. Kymer alone.]

HOT-BLAST—NEILSON'S PATENT.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Without professing to retain in my mind a recollection of much more of the law proceedings, in the case of Neilson's celebrated patent, than is reported in your three last Journals, I may beg to observe that the reasons recently adduced by the House of Lords (as represented by three law peers) for allowing "the eleventh exception" was founded on the fact of the Bradley Iron-Works having, at some comparatively distant period, put up an apparatus which they designed to carry a hot-blast to their furnaces, but of which, after a time, they discontinued the use. Hence it is clear, as the sun at noon-day, that the thing did not succeed; for, being successful, it would have become very profitable; and, being profitable, it would not have been discontinued. At what conclusion, then, are we authorised to arrive? Clearly at this—that no *bond fide* practical trial whatever was accomplished, and that the affair went no further than AN ATTEMPT.

What are failures, attempts, or paralysed trials—call the things by which name you will? What are they, but the very circumstances which tend most to discourage the inventive genius of the country, and to arrest in the prosecution of their arduous researches those men who, with the aid of their contriving minds, might otherwise have deserved well of the community at large. When an inventor, then, with such discouragement before him (if he knew of its once existing) accomplishes any great improvement in the arts, he deserves, beyond all doubt, so much the greater—not so much the more stinted—reward. You can hardly point out one great invention which has not been preceded by several *attempts* to realise it; but the faint, lifeless chimeras of science bear the same relation to practical science as the shadow does to the substance; they are unsubstantial shades, casting their dim distorted outlines before the coming events of science, and have nothing to do with the reality itself.

As regards the attempt at the Bradley Iron-Works, it can only be said of it, as might be said on many other occasions, that the egg was laid, but never hatched—that is, that it was an addled egg. To superficial observers such an egg may look just as good as another; but the best thing about it is the mere shell.

It appears to me that sounder sense could not have been conveyed, and more consistent with the spirit of the present patent law, as respects Neilson's case, than that which was delivered in the Scotch courts. Whether it was clothed in the best and most perspicuous language is another question—and language too often carries the day against sense, for outside now seems to be everything; even tailors boast they can make gentlemen. I much regret that three high names in the law appear, in this case, to have suffered their acute minds to have mistaken the letter for the spirit, and the legally unfashionable dress of words for the good sense they clothed.

Following out the idea of one of the Scotch Judges, I beg to repeat that a real practical trial, bearing on any great future invention, will be "continued," because it will be successful; or else it will be no "trial" at all, in the proper sense of the word, but will be a mere attempt, and will be soon "abandoned" and thrown aside as worthless. It is the fate of all crude undigested theories and other half-formed phantasies of the imagination, which, after their seven days' wonder, fall away, and hasten into the gulf of oblivion, unless arrested in their descent, to be re-produced as evidence in a law court.

Think Twice.

March 27.

SOUTHAMPTON DOCKS.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I have looked to the "circular letter" from the directors of this company to the proprietary, bearing date 15th April, 1842, to which your paper of last Saturday called attention. After a careful perusal of the same, I do not see how the directors can reconcile, with "justice," the permitting the few (principally themselves and friends) to obtain the immense advantages over the other shareholders, which the having taken those debentures will, if their bill passes, give them. The offer alluded to above, states that the same was "subject to Parliamentary sanction." Now, surely, Parliament will not allow any person to be injured, because he declined an offer which, whilst it wanted Parliamentary sanction, was illegal!! You will observe, the offer made to each shareholder was, that he should take a certain number of debenture notes, subject to a return of *more* than 5 per cent., on security arising out of lands and tenements. Now, when the usury laws were repealed by the Act 2d and 3d Victoria, chap. 37, cases in which the security arose from lands and tenements were *specially excepted*; therefore, no proprietor could, in April last, legally be called upon to *decide* whether he would accept the debentures, or permit (for such was the alternative) his other property in the docks to be prejudiced by those who would accept the same!!! If I am wrong in my view of the case, probably, some of your legal friends will reply to me.

City, March 30. A Lover of Justice.

P.S.—No notice of the day for the second reading having been yet given at the Private Bill Office, it may be considered questionable whether the directors will *attempt* to get "the bill" passed this session, knowing (as they no doubt do) that an opposition is intended.

SOUTHAMPTON DOCKS.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—In consequence of the remarks in your last upon this company, I have looked particularly to the clause of the Act now in Parliament, which is meant to render legal the 767 debenture notes, which the directors so hastily thought proper to issue; and it strikes me it will be found that those of the shareholders who did not accept their share of the said (3000) debentures, were wiser than those who "took the bait." Why, Sir, the clause is one to white-wash the directors in respect of an Act already committed. Now Parliament (though willing to grant powers to those who *lack property*) is not particularly likely to confirm them to those who act first, and ask leave afterwards, as the Southampton Dock directors have done.

A Constant Reader.

Old Broad street, March 29.

ON BLAST FURNACE MANAGEMENT.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I am one (doubtless, of many) of your readers who has derived great pleasure and edification from the letters of Mr. Rogers, on blast-furnace management. In his last paper, "On the Blast," given in your Journal of the 18th instant, he remarks, "The imputed rottenness, or weakness, of hot-blast iron, arises from a cause perfectly distinct from that of the air being heated to any specific temperature, as may be readily and plainly shown, were it not for prolonging these letters to an unnecessary and inconvenient length." Such a showing, by Mr. Rogers, I am quite sure, would contribute very much to the gratification of a large body of your readers; and must tend infinitely more to the elucidation of the question of the comparative merits of hot and cold-blast iron, than the angry letters which have occupied (wasted?) so large a portion of your columns for some time past. I hope, therefore, that Mr. Rogers, to whom we are all so much indebted, will add further to the obligation, by explaining the cause of "the imputed rottenness, or weakness, of hot-blast iron."

March 25. A Subscriber from your First Number.

[We doubt not but that Mr. Rogers, who is so well able to afford the desired information, will accede to the wish of our correspondent, who is not singular in his desire to acquire the information sought.]

BOTALLACK MINE.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I perceive in your paper of the 25th inst., a letter, signed "A Mine Adventurer," on which the Editor remarks that he thought it necessary to omit certain portions of the letter, as your paper, very properly, was "no puff." Now, Mr. Editor, as a pretty substantial evidence of the absence of any disposition, on the part of "A Mine Adventurer," to mislead, or in any way to overrate the appearances of that mine, he omitted to tell you that there was 700*l.* worth of tin, belonging to that account, remaining unsold, and that the present prospects are so encouraging as to fully warrant an increased dividend; suffice to say, that the increase on the reserve stock of ores, discovered, is rapidly increasing. In conclusion, I have only to add, that the mine is most valued by those that have inspected her, who are most competent to judge.

Penzance, March 28. An Out Adventurer.

[We are glad to hear so promising an account of this mine, but must request, in all future instances, that letters of this nature should have the signature of the writer appended thereto, upon insertion being given to them in our columns.]

CORNISH MINES—TINCROFT AND WEST WHEAL JEWEL.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—As a sincere well-wisher to your Journal, and the cause which it advocates, I have read with some surprise the letter signed "A Lover of Fair-Play," in your last week's Number. To those acquainted with the mines in question, the object of your correspondent is plainly apparent; and, from the editorial note affixed, one would imagine that you half suspected the *animus* of the writer. The insertion of the letter, therefore, cannot but be viewed with regret, especially as many parties refer to your Journal for authentic information, and for facts, and might, from false representations, become frightened, and sacrifice their property. I do not enter the lists against your correspondent, as an advocate for jobbing, for that is as much my abhorrence as it can be his, but I would, with your permission, ask him a plain question. He states Tincroft is "barely capable of making a profit of 1*l.* per share per annum;" how is it, then, that the mine has already divided that profit in less than six months? Again, he says, Cornishmen have taken advantage of the high price of shares, and "sold their interest to a man;" if by this somewhat ambiguous language he means to assert all the Cornish adventurers have sold their shares, he states that which is untrue; and those parties who have sold, would, I have no doubt, be glad to repurchase at a low price, if this letter of this pseudo lover of fair-play could accomplish it for them. As to West Wheal Jewel, your correspondent exultingly asks—"Where are the dividends?" the answer is, discovered, and in the mine, which does not require puffing; for, even at the present high price, there is not a share to be had in the market; upwards of 2000 shares are held by parties residing near the mine, and they are still purchasing. These plain facts need no comments of mine.

A Lover of Honest Play.

London, March 28.

[We are, by no means, the advocates of any particular interest in mining operations, and should be sorry that the introduction of any letters in our columns, or the remarks appended thereto, should have the effect of prejudicing the mine itself, or be, in the slightest degree, calculated to mislead the capitalist or shareholder. It is our object, at all times, to avoid "puffing," or to join in any outcry which may be raised for interested purposes. "A Lover of Honest Play" may have his object to serve, as well as "A Lover of Fair-Play," while it will be our endeavour to avoid playing the game of the one or other.]

CORNISH MINES—TINCROFT AND WEST WHEAL JEWEL.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I noticed the letter of your Camborne correspondent, in your last, and it is evident that he knows very little about the two mines he refers to, for (by his own showing) they assimilate in no respect. He complains that "jobbing" in London, by "brokers and secretaries," have run the shares up to three times their *true* value (How can he tell that?)—that, as regards "Tincroft," "the holders of shares in this county have sold their interest to a man." This, however, is not the case in "West Wheal Jewel;" for it is a fact, "that the holders of shares in this county" have purchased, within the last few weeks, 200, and now hold one-third of the concern, nor is this to be wondered at, when the present prospects are taken into calculation. The new lode (*see* report) is expected to be cut in the seventy within a month, shortly after which "Jewel lode" will be cut in the eighty-five. This, with the locality of the concern, adjoining to Wheal Jewel on the west, and Wheal Damsel on the north—which two concerns alone yielded a profit, mostly shared by Cornish adventurers, equal to three-quarters of a million sterling—what the shares, therefore, are now worth, or what they may ultimately yield, is more than the Camborne prophet can guess at. In conclusion, I beg to add, that Wheal Jewel, in two years, made dividends to a larger amount than the whole present value of West Wheal Jewel in the jobbing London share market.

St. Day, March 28. A Jeweller.

[We must decline giving insertion to any further correspondence touching the prospects or value of any particular mine, without the authority of the writer to append his name. "A Jeweller" should know it is not all gold that glitters, and there is such a thing as tinsel, which is calculated to deceive those who are not professed jewellers.]

CORNISH MINES—WEST WHEAL JEWEL.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—In reading the correspondence, last week, in your valuable Journal, I was struck with the subtlety of your correspondent, "Fair Play," as it regards the price of West Wheal Jewel shares, thinking (as it professes to come from the country) that some, not quite wide-awake to such a crafty adviser, might be disposed to act on such disinterested advice, and part with their shares at less than their value, having nearly been the victim myself of similar cunning about three years ago. However, I thought before parting with my interest I would have the opinion of an intelligent mine agent, and having heard much of the integrity of Captain Nicholas Vivian, I at once resolved to have his opinion, at the same time scarcely expecting anything like a favourable report, as at that time the ends were poor, and the shares not saleable at one-third their cost. Judge, then, of my surprise at receiving the following report, based on his inspection, in August, 1840:—After giving the details of the appearances in the various levels, he goes on to say, "After all, what you want to know is, whether, in a word, I think you are likely to have a good concern, and permanent mine? whether it is being economically wrought, &c. I have great pleasure in answering those all-important queries, especially as it so seldom falls to my lot to be able to reply in such a way. First, I am quite of opinion that West Wheal Jewel will be found a profitable mine, and that you will, eventually, be repaid your outlay, &c. Secondly, the mine is in excellent course of working; I can suggest no improvement; and have no doubt but due economy is being observed with regard to supplies and every other particular connected with the management. I found much more ore discovered than I had anticipated. I had expected a great deal more digging of ores from backs and bottoms (as is the custom in tin mines) than is prudent; but from my observation I found the agents prudent men—men of foresight and calculation. They could take more ores than they have been doing; but it would be unwise to do so before the mine is further developed."

A subsequent report, of Dec., 1841, further corroborated the above opinion, since which time, and within the last twelve months, upwards of

30,000*l.* worth of ores have been discovered, and that, too, on one lode—viz., Wheal Jewel lode; besides which, we have another lode, called the "New lode," which, Captain Vivian says, is likely to be productive of much copper ores, at deeper levels. (This has not been seen deeper than the fifty-seven fathom level.) Thus much for our prospects.

"Fair Play" asks, "Where are the dividends?" I would point to the 30,000*l.* in reserve, and not yet taken away, as quite satisfactory to every one who has an interest in this mine, and who, like myself, purchased for investment, and not for gambling; further, I think "Fair Play" will find but few shares have changed hands, tempting as he considers the price to be, either in Cornwall or London—our Cornish friends, holding half the shares, being quite as capable of ascertaining the value of their property as most people. If the real truth were known, I suspect "Fair Play" would like to see the shares at about the figure he mentions thinking they would pay for buying. For one, I should have no objection, as I should like to add fifty more to those I already possess; but let it be done by "fair play," and not by cunning. J. G.

[The remarks we have made on the letters of other correspondents, will equally apply in this case; and we have only to repeat, that we must decline inserting communications of this nature, unless they contain some new facts, and are not grounded merely on opinions. In all cases the letters must have the signatures of the writers subscribed.]

VENTILATION OF MINES.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Speculative inquiries into geological and other matters, in relation to the past, as the fruitful womb of the present, so far as they may enable us to look into the dim distance of the coming future, and to calculate and provide for possible and probable effects of known causes, may not be inutile, though the causes under consideration may be very remote from their effects. In this respect, we, the posterity of the dead, are, doubtless, under infinite obligations to the spirits that have passed away, but it must not be forgotten, that, in serving the present generation, by a peculiar attention to the utilities of life, the spirit born to think, as well as the body born to labour, may bequeath inestimable boons to posterity. To promote the health and the longevity of man were worthy the ambition of any journalist who, like yourself, a philosopher, aspires to the high character of a philanthropist. As was observed by the writer some time since, in a paper prepared for the Cornwall Polytechnic Society, "air is the element in which 'we live, and move, and have our being.'" Its abundance all round the surface of this ball renders it easily accessible by the poor as well as by the rich; and, surely, the working miner is entitled, whilst underground, to a breath or two! Self-interest is the most powerful motive to which we can appeal, but it has a frightful obliquity of vision, and a most abominable short-sightedness, which, to itself, is worse than a squint. Give breath to your labourers, if ye want to have your work done. An intelligent Penzance correspondent says, that "the mines of Cornwall are the best ventilated mines in the world," but that does not prove that the ventilation here may not be infinitely better. He has, no doubt, heard of beds of languishing, pulmonary consumptions, and some of them of an hereditary kind. But why sink a shaft for ventilation merely, whilst gases can be distributed over the surface. Anything can be done to taint the atmosphere, but almost every plan is "impracticable," if the idea of supplying pure air be contained in it!! Quantity and quality (with distribution or circulation) are the desiderata. If foul air be drawn from the most remote parts of the mine, there will be a supply by atmospheric pressure, even to the deadly levels, into which men cut, so lately as a fortnight since, in Cornwall, before the miners swooned. It appears that two different modes of ventilation should be adopted, one for metallic mines, and another for coal mines; and it is, therefore, with all due submission, suggested that two sets of discussions should be carried on. If one relatively economical system applicable to both sorts of mines can be found, all the better. One thing is quite certain, that men are now neither living the life nor dying the death of Nature, especially whilst experiments are being made on free men, to ascertain how much work they will consent, or can be coerced, to do, without submitting to be starved to death, whilst considered to be but little better than back horses!

Penzance, March 23. ALFRED T. J. MARTIN.

MINERAL VEINS—VENTILATION OF MINES—DAVY LAMP, &c.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—For the last time I beg leave to answer "J. S. D.," of Oxford. He gallops over Mr. Thompson and myself at a rattling pace; but, stop, Mr. J. S. D., we cannot allow ourselves to be ridden down in that wholesale way. He says, bread was asked for, and a stone given; I asked him for facts—he gave us his 100 times refuted nonsense; I have never hinted that he did not possess scientific knowledge, but I now appeal to the public to say, if he, in this controversy, has ever exhibited any—and, had it not been for one small observation made in his last letter, I should not have noticed his mean scurrility. He says, the schoolmen are wanted in the Blaenavon hills; we have had them there, and they began by moving them from their places, and I will tell "J. S. D." what one of them said—"I will turn the place upside down," and so he did, and I fear it will be some time before the Blaenavon hills will be right end up again; there is one thing will do it, and that is, to keep the schoolmen away from those hills, and I trust—indeed, I do think—that they never will be suffered to set a foot on those hills any more.

Your correspondent, "A Workman," has given us a sensible and very clever letter in the last Journal, which I, for one, am greatly obliged to him for. If he had said something more—something like the following reasoning:—There is a duty upon coals from English ports exported to France, Holland, and other ports on the continent of Europe, of 3*s.* per ton, and those coals being landed at continental ports, a further duty of 4*s.* or 5*s.* per ton more is paid to protect their home coal trade; the French, Belgium, and German collieries must be worked very expensively to require such a protecting duty, and those are the only places, I think, in the whole world, where corporation certificates are required to constitute an accomplished coal mine manager. So much for schoolmen again.

With regard to the ventilation of mines, I would not presume to call in question any committee's conclusions with regard to how a mine should be ventilated; those gentlemen, no doubt, are actuated by the very best of motives, but there is so much outside matter to rake away before any practical man can come at one grain of practicability. The thing is this:—We will suppose a colliery has to be worked that is pestered with hydrogen gas—well, all that can be done (say what they will) is to put two pits down both the shafts the same size, and not less, if round shafts, than nine feet diameter; choose your upcast pit, and, as I said in a former letter, Nature will instruct us which that should be. Put a proper air furnace in the bottom, or near the bottom, of the upcast pit—not near the top of the pit, because, if the fire furnace is near the top, it would only rarefy the air at the top part of the pit, and the pit the whole depth below the fire-place will be as cold as the downcast pit; but placing the furnace near the bottom of the upcast pit will warm the pit the whole way above it, to the top, where a stack should be erected—and the higher the better—which might be done even if the upcast pit was made a working pit. Well, the two pits down, and a communication from the one to the other, and the furnace attended to night and day—(those furnaces are apt to be neglected about the week's end, Sunday nights especially; I had a near miss yesterday morning of getting an explosion caused by the neglect above alluded to—thanks to the Davy lamp, but more of the lamp by-and-bye);—the working of the mine begins from the bottom of each of those pits, and proper roads are carried forward as the work advances, and those roads, where practicable, would be better carried in the solid coal, and the air-course should be as large as the road the coal is conveyed through (that is not always attended to—the air-way is often very small, compared to the horse roads); if it is not practicable to carry the air-way in the solid coal, it should be made air-tight, no leakage of air should be suffered to take place through its whole length. If the wind road loses air, the furnace may be doing its duty, but the air would be very weak at the end of the workings; and here I do say, from experience, if there was one pit at Hong Kong, and another at Newcastle (England), and an air-tight wind road all the way from one to the other, and a good furnace at the bottom of the natural draught pit of the two, if the drift from Newcastle to Hong Kong was driven through the most fiery vein of coal ever seen, it would be all swept away as fast as the coal produced it; but the misfortune is, the air-ways are not always made air-tight, and, moreover, great wastes, or open spaces of old workings, are often open to them, and those old workings contain pent up gas, and if a fall of the superincumbent strata takes place in those old workings, it forces the confined gas into the current of air, and accounts often for the irregularity of gas observed in the air-ways, as spoken of by some of your correspondents on this subject.

As to the Davy lamp, I cannot suffer Sir H. Davy to be made a useless man to the miner; it is not so, and all the other miners' lamps spoken of—some said to be better, and some worse, than the Davy—they are all Davy's, in another form; none of them will do without the wire gauze—therefore, they are his invention modified. It is the abuse of the Davy lamp, not the proper use of it, that occasions explosions; the proper use of the Davy lamp is to try the state of a mine, if it is fit to use an open candle in, which it is perfectly safe to trust to, but, when the gas fires in the lamp, go no further; it is time to attend to the air, and get it to sweep that part of the work, before any candle is taken there. In this coal-work a person regularly goes round every work place where any gas can accumulate with a Davy lamp every morning, and informs the workmen of any place unfit to take an open candle into—no one works by a lamp, it is that which is the abuse of the Davy lamp—viz., working by them. Thus, you see, there needs not so much said, and scientifically said; it is only to attend to the rules—Nature has provided plenty; no need to measure it in feet and inches—no need of blowing machines to blow the furnaces—no need of committees. If practical miners and their employers will do their duty all mines may be comparatively safe. THOMAS DEAKIN.

Blaenavon, March 21.

ON THE ORIGIN OF MINERAL VEINS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—With your permission, I beg to remind your Oxford correspondent, "J. S. D.," that, in reading his letter, in your last Journal, I was led imperceptibly to liken him to a flying firey serpent, whose poisonous sting generates death; yet, happy for Mr. Deakin and myself, a place of refuge still remains, in which is safety and defence. With such a foe, we have need of being *wise* as well as *chary*, or else we shall feel he is as difficult to rebut as the being who roams at large, and cannot be impeded in his progress. The wisdom we require is such as he, it would seem, cannot impart, or else, clad in that only, we should not be able to put *himself* to flight. To practical knowledge he makes no pretensions, and his theoretic seems so *scanty* and *imperfect* that he destroys the very foundation he intends to lay. Public libraries and museums are established, and receive their best support from the miner and mechanic; for, often, the flimsy schoolman, whose knowledge is as transparent as the air he breathes, sits perched on high, and, for the world, would not soil his plumage by association with the wading drudges of the establishments. The question, proposed in my last to him, has received an answer, that does not establish the theoretic doctrines of the schools; for, if the *faults* are of *contemporaneous* origin with the strata, does not this allow that they were made together, as Mr. Deakin asserts? but if *posterior* to the strata intersected by them, well, then, the doctrines of the *schools* are firm. As to formations of faults being *anterior* to the strata they cut, it is quite heterodox, and we cannot allow or receive it. Practical knowledge is as much superior to theoretic, as the sense of *seeing* and *feeling* is to the sense of *hearing*. We have our doubts, Sir, that your Oxford friend is but superficially acquainted with the doctrines of either practical or theoretic geology. As to the extent of *my practical* knowledge of the art of mining, I cannot boast, but I would like very well the game of coming in battle array with such airy men as "J. S. D." This subject seems now nearly out, unless fresh light can be thrown on it. We see, to a certain extent, the doctrines of geology, as taught in the schools, is worthy of reception, and may delight, and even *profit*, the miner; yet in this, as well as in other matters, there is boundary to all our knowledge. Many speculations abroad are both bold and daring, though they are only the successors of others, that have been as short-lived as they themselves may expect to be. The plain, and only safe path, for all theorists to tread, is in that of rational induction, and that lies through reason and Scripture, when well understood. If leisure and life permit, I intend to resume practical mining, if it shall be acceptable; but, first of all, I intend a review of the *Report of the South Shields Committee*, having just seen it, and, for the present, leave Mr. J. S. D. to his antagonists, Deakin and Co., who, I have no doubt, will tackle him again. U. THOMPSON.

Cwm Amman, March 22.

GEOLOGY—NEW SYSTEM OF PHILOSOPHY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—The natural philosopher, when he takes upon himself the task of instructing others, cannot be too guarded in his choice of words, for language is but an imperfect medium of expression, and, in common with all things else, becomes corrupt by long and extensive usage; or, like a threadbare garment, becomes so patched by the changing hand of time, as to render it difficult to distinguish the original pattern.

The word CREATE; French, CREER; Italian, CREARE; Spanish, CRIAR; Latin, CREARE.—On the authority of the learned, to create is to cause to exist, to produce, to beget, to invest with a new character or title, to give new qualities to any thing. The Hebrew word, "ברא" (Gen., i. 1), rendered "create," has, it is said, chiefly on the authority of Maimonides, been considered as implying "an absolute creation out of nothing;" but, apart from the absurdity of an expression implying an impossibility, most writers upon the subject consider it as implying to *fashion*, *form*, and *decorate*, a matter already existing; thus, for instance, man is said to have been created out of the dust of the earth, and the spirit of life was breathed into him—the previous existence of spiritual and corporeal matter being by those and other expressions acknowledged. Again, Joshua bids the children of Joseph *create* to themselves a more ample possession, by cutting down the woods; Goliah desires the Israelites to *create*—that is, *choose or prepare*—a proper champion to fight with him. In Numbers (xvi., 30), I. Kings (xii., 33), and Nehemiah (vi., 8), it signifies to *devise*, &c. Strictly speaking, *creation* is the bringing into being something which did not before exist, and therefore it implies no contradiction; but, as is generally remarked by learned writers, there is no subject concerning which there have been more disputes, and none on which there is greater uncertainty. The ancient philosophers entertained no such idea as its being possible to *produce* or *create* a something out of nothing; and the Jews themselves (if Josephus is to be considered an authority in this matter) were disposed to take the Mosaic account of the creation in the allegorical sense; *Philo* entertains the same opinion. Of modern writers, Dr. Burnet, Geddes, and others, maintain that it is a mere allegory or fable; and modern geology supports this view, in the multiplicity and peculiarity of the phenomena of terrestrial beds. "Petera Lignea" must have peculiar ideas of his own, when he speaks of three new existences—*matter*, *life*, and *spirit*; for the matter of which man was made was the dust of the earth, and the spirit of life was imparted from him who gave it, which previously moved on the face of the waters. In all, and through all, we have, therefore, the *agent*, or *cause*, and the *patient*, or body; also, the effect produced by mechanical action. So much for this childish *non sequitur*, and for "Petera Lignea's" knowledge of language. The opinions of Drs. Buckland and Chalmers are but the echo of the opinions of philosophers of the present day—of men whose testimony far outweighs the metaphysical absurdities of the immaterial school. Mr. Montague's letters are, I am inclined to think, unanswerable, for his facts are common property to all, confirmed by chemistry, geology, and every other branch of science embraced by natural philosophy. The geologist cannot oppose him on rational grounds; otherwise his own stately fabric must totter to its fall, and geology, stripped of its assumed powers, must be content to rank as an inferior branch of mineralogy. The chemist will not answer him; because the material of his fabric is cemented by chemistry. He affirms and supports all facts; and gives new and important facts, derived from travel and observation; his chief anxiety being to preserve nature inviolate.

I would recommend "Petera Lignea," if he is desirous to figure as a controversialist, to pause for at least one twelvemonth more ere he again throws down the gage; or, if determined to rush to the encounter, let him not suppose that an impertinent negation to all opinions but his own is the only requisite armour of defence; but, on the contrary, it would be wise in him to bear in mind the maxim of the learned Lord Bacon, who correctly observes, "Man, the servant and interpreter of nature, can only understand and act in proportion as he observes or contemplates the order of nature; more he can neither know or do." He will, therefore, do well to study authorities, in preference to blindly embracing the opinions of his friends; to study natural objects and things, instead of creating shadows, and endeavouring to hang his hat on the horns of the moon.

Oxford, March 25. J. S. D.

GEOLOGY—NEW SYSTEM OF PHILOSOPHY.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—I anticipate both amusement and profit from the threatened onslaught of your correspondent, "Petera Lignea," having in vain looked for the man bold enough to accept the gage of battle thrown down by Mr. Montague some fifteen months since; it is true, several feeble attacks have been made, in the nature of bush-fighting, and I fear that his present opponent, if we are to judge from his maiden effort, will have to rank in this class. It requires the cool reflective head, such as phrenologists love to dwell upon, to speak of matters and things far beyond the ordinary comprehensions of men, and it is not the mere quibbler for words, or stickler for ancient usage, that can hope to win laurels from such a man; for, as Kant observes, "human reason, ever restless, will not rest satisfied until it has pushed its arguments to that point where alone ultimate satisfaction can be obtained—that is, to their APODICTICAL CERTAINTY." The ancient philosophers, unfettered by theory, and true children of Nature, judged of the operations of Nature, and of causes and effects, from the manifest phenomena before them, but we, who profess to be wiser in our generation, are, with few exceptions, content to take all things upon trust. Thales, the Ionian philosopher, held the doctrine, that the FIRST PRINCIPLE of natural bodies, or the first substance from which all things constituting this planetary body are formed, is WATER, all things being filled with, and animated by, the ACTIVE PRINCIPLE, acknowledged as HEAT. Anaximander held that INFINITY is the first principle of all things—that the universe, though variable in its parts, as ONE WHOLE, is immutable. Anaxagorus introduced with this the doctrine of particles; and Anaximenes taught that AIR WAS INFINITE, but that all things produced from it were FINITE—of this opinion was Diogenes. Plato defined MATTER as an ETERNAL and INFINITE PRINCIPLE, without FORM or QUALITY, but capable of receiving all forms, and undergoing every kind of change, in which, however, it never suffers annihilation, but merely a solution of its parts, which are, in their nature, infinitely divisible, and move in portions of space, which are also infinitely divisible. Aristotle speaks of these principles, MATTER, FORM, and PRIVATION; Nature he defines to be a principle and cause of motion and of rest, whenever it exists primarily, and not by accident. From the ancient Egyptians the ideas of CHAOS first took their rise, an intelligent power being eternally united with the chaotic mass, by whose energy the elements were separated, and bodies were formed—who continually preside over the universe, and is the efficient cause of all effects; and it would appear that Moses adapted these ideas of the Egyptians, in the cosmogony he gave to the Hebrews. To the above philosophic ideas, modern discoveries have added nothing suitable to the immense store of wisdom collected; but, on the other hand, they have studiously endeavoured to substitute shadow for the substance, and impossibilities for the pure light of reason, and in contradistinction to known and established facts; subservient to the usages and customs of the world, to the superstition, folly, and madness of the age in which they lived, they have built their respective theories upon the quicksands and shoals of deduction and logical demonstration. D'OR.

March 28.

ON CORAL REEFS AND THEIR ARCHITECTS.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—Mr. Ick delivered two lectures on the subject of coral reefs at the Birmingham Philosophical Institution, wherein he endeavoured to show that the limestone at Dudley, Castle Hill, Wren's Nest, Hurst Hill, and Wenlock Edge, are formed by the labours of the coral insect; by your leave, Mr. Editor, I will endeavour to prove, that it is impossible it can be formed by those insects. The coral insect begins its operations at the bottom of the sea, and, probably, they labour on all sides of their structure, until it approaches the surface of the water—at least, until the waves of the ocean begin to effect their labour. After that they invariably work on lee side of the reef, and are protected in their work by the reef itself. The reef is raised by those wonderful insects from the bottom of the sea in one compact and solid mass of matter, not a parting of any kind, horizontal or vertical, in the whole fabric, from bottom to top; that would not do, because, if it was stratified as limestone rocks are, and formed in beds as limestone is, thicker or thinner, some of the beds one foot thick, and from that to eight or ten feet, all thicknesses, with partings of clunch, more or less, between each bed—can it be imagined, if the coral was to raise the reefs, bedded as the limestone is, at Dudley, Wren's Nest, Hurst Hill, and Wenlock Edge, one layer upon another, that it ever could resist the surges and driving billows of the ocean? Would not the very first gale of wind overturn such a building—at least, the upper courses, such as a limestone rock is made up with, entirely of stratified beds. If the coral could place them in beds, the billows would overturn them—the building would never reach the surface of the sea. Instinct tells the coral a better mode of building than that; he builds in one compact mass of matter from bottom to top. Where did Mr. Ick see a limestone rock built in one solid mass from top to bottom?—Not at Dudley, Wren's Nest, Hurst Hill, nor Wenlock Edge—no, nor at any other place. The coral insect finds it often very difficult, in some unfavourable situations, to complete their reefs, when in one single, straight, or waved line, and often abandons the reef before they have finished it—hence those sunken reefs, as the sailor would call them, so dangerous to mariners; the coral would not leave his work unfinished, without difficulty or danger attended it, any more than would the bee, the ant, the wasp, or the beaver; and if those insects find it so difficult to complete their work in a solid mass, how could they possibly build them at all in courses, or beds, as limestone rocks are built? The coral, for the convenience of shelter on the lee side of their work, have formed, in many instances, a reef of an immense circle, with outer reefs to protect them from the billows. During their work they have brought the circle together—then no matter what wind brought the storm, they had a shelter on one side or the other of the reef to continue the labour, and, when that circle was brought up to the ocean top, it formed an island, with a lagoon in the middle. Mr. Ick may see numerous coral islands in the Pacific Ocean, with lagoons in the middle. Did he ever see, at Dudley, Wren's Nest, Hurst Hill, or Wenlock Edge, an isolated rock of limestone in such a form as one of those coral islands would be if the sea had left them dry, and a lagoon in the middle?—If he has, I hope he will say where it is, that I may go and see it too. I would advise those geological lecturing gentlemen to be more cautious, and not mislead those that are unacquainted with the earth's stratification; the stratified globe was formed by the Maker of the universe, limestone and all; the coral rocks, gigantic as they are, were formed, not stratified, by creatures made by the Great Master Builder of this universe, for their own comfort. Does the African ant build for her habitation a pyramid of clay?

Blaenavon, March 28. THOMAS DEAKIN.

THE LIFE-BOAT.

TO THE EDITOR OF THE MINING JOURNAL.

SIR,—The chief, if not the only essential, elements that have been supposed, connected with the problem of a "life-boat," are simply these—form and specific gravity. By the one its upright position should be recovered, when overwhelmed by the waves; this has to do with peculiarity of structure. The other is connected with floatage, even when the life-boat is supplied with more than its necessary complement of men—that is, not merely the crew requisite for management, but the persons saved from the shipwrecked vessel; and all this, too, when the life-boat is filled with water to the gunwale—the last condition is secured by buoyant materials. Air-boxes, or even air-tubes, formed of metal, however secured in the first instance, if in any way damaged, are utterly useless, and the mariner, in such a case, trusts to a "broken reed." I cannot see why there should be only one uniform size in the life-boat. Why not also one of a large construction, to meet occasional contingencies, in particular localities, as on the coast of Boulogne, and various parts of the British shores, eminently dangerous in storms. In such a case, I would introduce, instead of oars, the Archimedean screw at each end, put in motion, not by steam, but by electro-magnetism, on the principle of Mr. Davidson, successfully applied, and with sufficient power, as in the case of the circular saw, &c. The iron trough battery could be secured in an air-tight case, impervious to the wave. I can see no necessity whatever for the provision against the contingencies of the boat being capsized—Why not prevent such an accident altogether? This may certainly be done, by lowering the centre of gravity to correspond with the centre of the oscillation of the wave, by means of a weighted false keel, lowered in deep water, and raised on a shallow shore, by means of rack work; and, secondly, by extending the width above, which I effect by surrounding the sides with a belt of compressed cork, hinging on the gunwale, about eighteen inches or two feet in breadth. This platform of cork may be dissected at definite lengths, to give facility to the movements of the oar. It is clear, that, when a heavy sea strikes one side, these cork fins will assume, on the other side, the horizontal plane, above which they are prevented from rising; and thus, from the resistance of the sea waves, the life-boat will maintain a position, at all times, but little deflected from the horizontal plane. The interior of the boat should be lined with compressed cork, but considerably preponderate towards the gunwale. There is still another condition which

seems to me worthy of attention. The life-boat should possess a delicate elasticity, so as to rebound, without injury, from the rock, should such a contingency occur; a provision of spiral coils and cushions would meet this condition. The crew of the life-boat, though they must be attached to their seats, should be enabled, by touching a spring, immediately to disentangle themselves; each should also be provided with a cork safety belt, such as that of Andrews, of Manchester, which seems extremely portable, and very simple. There should also be a supply of those for such as are saved from the wreck.

J. MURRAY.

March 22.

MANUFACTURE OF BAR-IRON—LARGE CASTINGS.

TO THE EDITOR OF THE MERTHYR GUARDIAN.

SIR,—Being always interested in whatever may appear in your excellent Journal anywise relating to the manufacture of bar-iron, my attention was irresistibly drawn to a portion of the correspondence in your last, bearing the unusual, though, to *me*, familiar, sounding cognomen of "An Old Roller;" and, from the novelty of which, I conclude it to be a happy omen, when the "march of intellect" has made such rapid strides into society, that "rollers," whether old or young, should lay aside the tongs and commence wielding the pen, in lauding the operations of his employers. In reference to the subject, I find, on perusing it, to consist of a little enviable difference about the rolling of two bars of iron, at the respective works of Dowlais and Cyfarthfa. Now, as I am situated in a quiet spot, midway from each of those great rival establishments, with your permission, I trust I may be allowed (impartially, of course) to set the matter in its proper light, bearing in mind the motto of your paper, which "An Old Roller" should have done likewise—viz., "The truth against the world." Having seen both the bars in question, for the information of your readers, I will render them a true statement of the weight, dimensions, and illustration of each:—The weight of the pile for the Dowlais bar was 3180 lbs., when, after being heated, hammered, and rolled, it produced a round bar of 8¼ inches diameter, 14 feet long, and weighing, when finished, about 2594 lbs., with a slight curvature, thus ——, it being a stupendous mass of iron in a single bar. The weight of the pile for the Cyfarthfa bar was 2640 lbs.; when, after the process of heating and rolling, it produced a bar, nearly round, of 6 inches diameter, 24 feet in length, weighing, when finished, about 2190 lbs., and shaped thus ~, which may readily be seen to be as crooked as the report given to it by "An Old Roller." Moreover, it occupied twenty-five forge smiths, sledging at it until Sunday morning, to bring it to a decent saleable form; at last it resembled "Paddy's gun for shooting round the corners," which was anything but as "straight as a line."

In alluding to the comparative difficulty in rolling those bars, such is the facility with which the Dowlais Company manufacture 6-inch bolts, they last week executed an order of upwards of thirty tons, all varying from fifteen to eighteen feet in length; it is also a common occurrence in works of less magnitude than Dowlais or Cyfarthfa. I shall now leave it to your readers to judge how strictly "An Old Roller" has confined himself to facts, and whether or not the Cyfarthfa people may not also vie with their neighbours in "throwing the sledge," as well as manufacturing large bars.

Penydarran, March 15. A PENYDARRAN OPERATIVE.

THE NEW AERIAL MACHINE.

The intense curiosity which has for some months been excited in the public mind, by the announcement that the long-sought problem of the *mechanical* principles of flight had been solved by the discoveries and persevering experiments of Mr. Henson, is now about to be satisfied—at least, as far as a description of his invention will do so. We have been favoured with a copy of a prospectus, which was circulated, among a few influential and moneyed men, in June last, for the purpose of raising the sum of 2000*l.*, in twenty shares of 100*l.* each—each share to guarantee to the holder the sum of 500*l.* on the 1st of October, 1843, should the anticipations be realised, with the option of being a shareholder in the company to that amount, if desired. This prospectus (which was not printed, but circulated in manuscript) states, "That an invention has recently been discovered, which, if ultimately successful, will be without parallel, even in the age which introduced to the world the wonderful effects of gas and steam. The discovery is so simple in principle, yet so perfect in all the ingredients required for complete and permanent success, that to promulgate it at present would wholly defeat its development, by the immense competition which would ensue, and the views of its originator be entirely frustrated. Its qualities and capabilities are so vast, that it were impossible, and even unsafe, if possible, to developе them further at present. Measures are in progress for patents for Great Britain, Ireland, Scotland, the Colonies, France, Belgium, the United States, and every other country where protection for a first discovery is granted."

It very fairly states that perfect success cannot be always depended on, and that the plan is certainly a speculation, but the experiments which had been made up to that time were so satisfactory, that failure was not feared. The projectors believed this most astonishing discovery of modern times would prove the germ of a mighty work, and, in that belief, requested the aid of others to work and prove the invention. Parties were found to aid in the work, and proceedings were immediately commenced for the erection of models, and testing the discovery by the most severe and diversified experiments, and the result has been the development of an apparatus for the purposes of flight, on an extensive scale—a representation of which has, by this time, been circulated over the greater part of Europe. The principles on which Mr. Henson's plan is based, are certainly congenial with the laws of gravity and atmospheric pressure and support; he has, as far as practicable, followed the anatomy of the bird, so beautifully and peculiarly formed for rapid transit through an elastic fluid; but it is but reasonable to expect that much has yet to be done—many laborious trials made, and wearisome failures endured, before we shall see completely fulfilled that scientific prophecy of Darwin:—

> Soon shall thy power, unconquered, steam afar
> Drag the slow barge, or drive the rapid car;
> Or on wide-waving wings, expanded bear,
> The *flying chariot*, through the fields of air.

Man! inventive man! ever prone to reach a new existence, has, from the earliest days of which history speaks, made attempts to imitate the feathery tribe and navigate the air, but all these attempts, even from Icarus, who soared so near the sun that he melted his waxen wings, fell into the sea, and was drowned, to flying speculators of more modern times, have been confined to the means by which an individual could raise himself in the air, and accomplish a motion through it at will; but Mr. Henson, taking a more extended view, and considering the vast benefits which must accrue to the human race if ever the navigation of the air is accomplished, has attempted the construction of a machine which shall carry passengers and merchandize to almost any extent, and at a rate of transit so rapid, that, compared with it, the present velocity of the locomotive engine shall be insignificant. Our readers must imagine an extended plane—seventy-five feet long, by thirty feet broad, made of great strength, yet light in an extraordinary degree, with uprights at proper distances, forming the points of suspension for metallic braces, which support and tighten this frame-work in various parts—this *frame* may be considered one of the wings, though they have no motion, but between two such *frames* the body of the machine, (something in the form of a boat) containing the engine, crew, passengers, &c., is firmly attached; to the stern of this machine is affixed a tail, fifty feet long, and as many broad at its extremity, formed of the same strong and light materials as the other frame-work, and beneath it is the *rudder*, regulated from within, to guide the apparatus in its flight.

These frames are covered with oiled silk, in such manner that it can be *reefed, or unfurled*, with the greatest dispatch, as occasion may require. It may now be supposed that this immense surface, once afloat on the atmosphere, and kept in a horizontal position, which the weight in the centre would naturally tend to, would descend very slowly (and this principle may be understood by trying a small weight to an umbrella, and letting it fall from a window), but descend it would, without some power to keep it in motion, and the more rapid the flight the more certain its power to remain suspended. In a compartment between the wings and tail, and on each side the stern of the machine, are fixed two sets of fans, or sails, worked from the engine within; these sails are twenty feet diameter, are fixed at an angle like the sails of a windmill, and effect a propelling power on the atmosphere, on the same principle as the Archimedean screw in the water. The machine is so constructed, that, in its passage through the air, the front part and foremost edges of the wings are raised, and thus, being propelled by the action of the sails, were it not for its own gravity, the machine would rise, but that power tending downwards, and counteracted by the power of the engine, a horizontal motion is effected. In all machines hitherto invented for aerial transit, the difficulty has been in starting. Mr. Henson has adopted the inclined plane for this purpose; the aerial machine is projected with great force down the incline by the power of a stationary engine, by which it acquires a momentum sufficient to raise it high in air, and its own engine keeping the propellers at work is expected to keep it afloat.

From this attempt at description, we trust our readers will be able to form some idea of this novel vehicle. The principles on which Mr. Henson's invention is based, are, so far as the application will go, strictly in accordance with the laws of Nature; but, while we should be far from saying the thing cannot be accomplished, we much fear, that, until science gives a far more powerful agent than the steam-engine, with only a tithe of its cumbrous weight, no mere mechanical contrivance will succeed in aerial transit, to establish regular periodical journies of long distances, even for the conveyance of despatches only, much less to carry a sufficiency of passengers and merchandize to pay the expenses of erection, working, &c. While, however, the quantist may avow their incredulity, and the positivists their fear, the wise will pause before they express a condemnatory opinion on this bold attempt, knowing that science has countless wonders yet in store for us, and though Mr. Henson's invention may not at once be a perfect machine, it is, certainly, the first really philosophical attempt carried to any extent, and may, at least, lay the foundation for more matured plans, and eventually to the completely carrying out the long-desired, but hitherto unreached, science, "the navigation of the air."

THE NATURAL LAWS OF FLIGHT,

DISCOVERED AND APPLIED TO AERIAL LOCOMOTION,

BY W. H. PHILLIPS, C.E.

SIR,—Permit me to propound a question, the demonstration of which has hitherto baffled the searching scrutiny of philosophy, but which is now discovered, and is engrossing popular interest and inquiry. The subject is, the solution of the natural laws of flight, and their application to aerial locomotion. As the discovery is one that must not be idly dealt with, I have chosen your Journal as the fittest medium to communicate such information to the intellectual and scientific members of the public.

Let us reflect that man, in following the ordinances of his Creator, to subdue the earth, has, by the agency of his animal labours and spiritual intellects, obtained a wonderful sovereignty over the animate and inanimate world. Every beast of the forest, and the monsters of the ocean, fly from the pursuits of man. Rivers are diverted, and mountainous rocks are displaced, by his machinations, and he handles the very elements with a mastery that proves the dignity of his occupation of the earth. The earth is the life estate of man—the lands and its living creatures are subservient to his uses. The seas and their inhabitants are for the use of man, and the air, and all that pertains to the earth, is for the use of man, and all terrestrial Nature is given to him for honourable husbandry, and also the material laws divine which Nature must obey, or cease to be, are given to man to contemplate and exercise, with the accumulated wisdom of advancing generations.

It is a strange truth, that many volumes have been written upon the functions and attributes of birds—after the perusal of which we are still uninformed upon the true elementary theories of the phenomena. Under the delusion that birds have a power to charge their frames with a buoyant gas, aeronauts have employed gas, or rarefied air, as indispensable essentials in aerostation, whereas the mechanical, though astural, action of wings is evidently the sole power by which the eagle bears the lamb into the clouds; still, it will be unsatisfactory, if we only determine that birds and insects fly by the use of wings—this is known to all; it is, therefore, necessary to consider the physical laws ordained to govern power and action. Power is an accumulation of strength, produced by the secretion and evaporation of material. The power of steam is dependent upon the amount of carbon and gases destroyed in economic combustion, and muscular power is also dependent upon the carbon, and gases consumed in digestion; the digestive organs, however wonderfully connected in action with those of pulsation and respiration, are, nevertheless, the furnace of animal energy.

The flight of birds and insects is commonly attributed, as before stated, to their possessing a power to contain and emit some unknown gas, and by extraordinary muscular strength of wing, and an instinct peculiar to their nature. Such a conclusion is idle, vague, and fabulous; for although the larger birds of prey are provided with large and powerful wings, and proportionate muscles, the rule is not apparent in the tender wings of the dove; the conclusion, therefore, is this, that there are qualities of flight dependent upon the organisation and proportions of the different primary members, as, for example, the light or weighty body, the long, short, wide, or narrow wing, the weak or powerful muscles; in short we may determine, by calculation, that there are millions of diversities of flight, between the superior flight of the eagle and the inferior flight of the common fowl. If so, that there are really millions of different movements exhibited in actions of the airy tribes, can we be surprised that attempts to establish a common rule for all should fail to be correct for any one? but, if we observe and study the movements of some one bird, we shall, at once, learn that its flight is as much dependent upon mechanical action, as are the ambulatory movements of a quadruped. This deduction leads us to digress, in order to examine how far the action of quadrupeds have been imitated and applied to machinery in locomotion.

However different in appearance to the sight, the locomotive railway engine is, in principle, a mechanical biped, or quadruped, possessing powers of speed equal to the lightest and fleetest animals, and, at the same time, strength surpassing the strongest and most weighty ones. The power exerted in the locomotive-engine, and in the horse, and other animals, is, as before stated, consequent to the energy imparted to the expanding and contracting muscles, or machinery (for we must consider them alike), by the transmutation of food, or fuel, into determinable quantities of power accumulated and circulated in the primary organs of the animal, or machine. What a beautiful order of Nature! that power should be dependent upon combustion, and combustion upon power. In all the ramifications of life contained in the earth, the sea, and the air, in the movements of the winds, in the fall of the cataract, in electricity, in steam-power, the spring, the rising and the fall of a sparrow, is all consequent to combustion, or chemical evaporation of matter.

Having so far advanced reasons for attributing the phenomena of the flight of birds to the mechanical action of wings, and having established the axiom that the movement of the wings is dependent upon muscular energy, supplied from the consumption of material food, it is now proper to dissect the different limbs of the machine, in order to discover the hidden means by which, when possessed with life, it performs such wonderful evolutions. In doing this, it is necessary to examine the mechanical and physical arrangement of the frame, separate and independent of its life. It may, at first, appear strange to omit the thought of the vital spark, by the extinction of which the movement of the whole engine is suspended; but, as an artist, in planning a new machine, sees the perfect actions of all the parts, without the vital motion really being applied, and as, in anatomical investigations of the torpid body, we discover the arrangements, functions, and applications of the members, so it appears by the course prescribed, without forgetting life's important value, we shall learn to avoid the errors that have so long blinded us, one of which is ascribing mechanical actions to life, which life only directs.

From among the tribes of birds whose movements we have opportunities to witness, we will select two, closely resembling in general form, although possessing very different powers of flight—these are, the dove and the common fowl. The anatomy of the bones of the two are very similar in construction and arrangement, but a striking difference of proportion between their wings and bodies would almost, at once, lead us to conjecture, that the longer flight of the dove is principally owing to its being provided with larger wings, and we further find the proportionate weight of bones is much lighter in the dove. If, then, the slender frame of the dove be sufficiently strong to convey and support together its entire body, and to allow it to travel hundreds of miles without taking food or rest, wherefore, we might say, should not the fowl we are speaking of be furnished with bones equally light and delicate? Thus it is, the bulky and fleshy body of the fowl requires proportionate strength of bone to support its weight, and not being endowed by Nature with equivalent muscular strength, the double encumbrance of flesh and bones consequent to its bulk prevents its taking wing as a bird of flight.

It may be proper here to observe, that in the economy of Nature, every race of animal, insect, fish, or bird, is either the food of man, or the prey of some living creature, and that those given to us for nutriment, are, by the wisdom in creation, adapted not only to perform the actions common to their lives, but also to preserve their natural qualities beautifully suited to the appetite and organs of mankind; these reflecting, we must at once perceive, that if the common fowl were furnished with the muscular nerves of the eagle, it would be quite unfitted for our uses. From this brief investigation of Nature, we cannot fail to see, that although there is one universal principle in the flight of birds, there is, as above stated, an endless diversity of power, form, and action; but, we must remember that our interest in examining the natural laws of flight, was to lead us to "aerial locomotion," and by this preamble what have we learned, not having yet considered the leverage and other complexities of the mechanical application upon the air of any natural wing we have above alluded to, at least we may declare, that it is not merely copying the external form of birds generally, and applying thereto our common mechanical power that will lead us to the achievement of the stupendous project. But if our aerial apparatus is to travel upon the principle and in form of a bird, it is evident there must be discernible in its structure that perfection of minuteness in the qualities and quantities of the energetic organs, in the weight and size of the body, in the dimensions and form of the wings and other members, as will enable us, at once, to determine whether it is to class with the falcon tribe "that cleaves the sky," or the domestic hen that will rather run a perch than fly a yard.

(The subject will be resumed in next week's Journal.)

A NEW KIND OF GAS.—The *Censeur*, of Lyons, states that, at one of the late sittings of the municipal council, a trial was made of a new portable gas, to which its inventor has given the name of "hydroluminous." The apparatus, says this journal, is very simple, and applicable to the smallest candlesticks, as well as to the largest and most splendid candelabra. The light it gives is very fine, and it is as portable than it can be carried about with the common hand candlestick. The *Censeur* says nothing of the comparative cost of this new light. Hitherto all attempts to produce a portable liquid generating its gas by the mere action of its own light, have been attended with much greater cost than that of the article in common use, or with some practical inconveniences. If the inventor of the "hydroluminous" has got over these objections, he will render a great service to the public by replacing the ordinary coal or oil-gas, which is always attended with more or less danger when used for internal lighting.

IVISON'S PATENT FOR PREVENTING SMOKE.

We extract the following paragraph from *Chambers' Journal*, of the 24th March:—"In our notice of various plans for the prevention of smoke (No. 376, February 11), it appears we have not done justice to the process of Mr. Ivison, which we described as apparently imperfect, in consequence of large volumes of black smoke being frequently seen at the Silk Factory, Edinburgh, where, we understood, it was professedly applied. We now learn that, for twelve months past, the use of the patent has been withdrawn by the patentees from the above factory, and, hence the volumes of smoke which had fallen under our notice. Such being the case, of course the patent in question must rest on its own merits, free of any disparagement from us. We are further assured by Mr. William Bell, 11, Queen-street, Edinburgh, agent for the patentees, that the liability of derangement from the action of the furnace on the fan-like injector of steam, will not occur where the principle is properly applied, and that six of them were used at the factory, in six furnaces, with little or no repair, for two years.* A paper has been handed to us by the proprietors of Ivison's patent, shewing, upon affidavit, the comparative results as to smoke, in working with five furnaces, at the factory, before and after the withdrawal of the patent. We have not space to go into minute details, but quote only the following particulars:—† In seven days, comprising 2130 minutes of working time, there was, with the patent, only four minutes of dense smoke, thirty minutes of half dense smoke, seventy minutes when smoke was scarcely visible, and 2026 minutes when there was no smoke. In four days, comprising 1330 minutes of working time, there was, without the patent, 307 minutes of dense smoke, 540 minutes of half dense smoke, 183 minutes of smoke scarcely visible, and none in which there was no smoke.' For the information of unskilled persons, it should be explained why smoke appears at some times and not at others, even with the patent. The occurrence of smoke is, during the brief intervals, when fresh fuel is applied, at which times the doors of the furnace are necessarily opened, and the influence of the patent partially deranged by the great rush of air across the furnace. Much of the smoke, however, at these feeding times might be saved, were the stokers as active and careful as they might be.† Mr. Bell has also brought under our notice the advantages of Ivison's patent as respects saving of fuel—a point of vast importance where large engines are employed, or where coal is expensive; but we must refer to the printed account of the patentees, and to a recent essay for the Society of Arts, by our townsmen, Dr. Fyfe, for all required details on this branch of the subject."

We also give an extract from Dr. Fyfe's essay, in which he states the result of his extensive operations with the patent in question. The whole essay is well worthy of attentive perusal:—"The average of the above ten results (with a circular boiler, eighteen feet long by three and a half diameter) which includes that given in the preceding table, is 11·62, from the average temperature of 103; and, supposing the water to have been at 32, then the average result would be 10·87. Or it may be viewed in another way. In all the trials 5576 lbs. of coal were used, and 63,590 lbs. of water were evaporated, and 63,590 ÷ 5576 = 11·4, and reducing this from the temperature of 103 to 32, the result would be 10·66, and, again, 10·66 + 1067 ÷ 2 = 1070; a result which exceeds considerably the highest that has, so far as I know, been put on record—I mean that of Henwood, which was 9·94 procured by English caking coal, the evaporating power of which, compared to that of Scotch coal, is allowed to be as about 4 to 3. With the view of ascertaining the power of the furnace and boiler, without the use of the steam apparatus, similar trials were made with the same coals, due attention being paid to the different circumstances already stated. On an average, I found that for the consumption of each pound of coal, the evaporation amounted to 6·66, and reducing the water to 32, as before, the result would have been 6·17."

* *Note, by the Patentees.*—The engineer at the works certifies this fact; and he also certifies, that while the mills were in full work with the patent, ten tons and a half of coal per day worked engines of 120 horse-power, and also supplied steam both for an extensive boiling apparatus (equal to 25-horse power), and also to heat the factory to 60 degrees. But that since the patent was withdrawn, upwards of three tons and a half of coal per day are required merely to heat the factory to only 60 degrees.

† There being five furnaces in one chimney, the time certified gives less than twenty seconds of smoke, scarcely visible for each firing of each furnace. The boilers are waggon-shaped—twenty feet long.

INSTITUTION OF CIVIL ENGINEERS.

MARCH 28.—The PRESIDENT in the chair.—The paper read was a report, by Mr. D. Mushet, on some experiments made at the Milton Iron-Works, Yorkshire, to ascertain the relative strength of the cast and malleable iron produced at those works, both by the hot and the cold-blast processes. The results, which were arranged in tabular forms, showed that, although in some districts the introduction of heated air for smelting might have deteriorated the strength of the iron, yet, with minerals like those of Yorkshire and Derbyshire, it could be used with advantage, and that the quality was actually improved. The table of breaking weights, from Mr. Fairbairn's experiments on cast-iron, was given, and it appeared that the strongest quality quoted by him broke under a pressure of 881 lbs., whereas the Milton hot-blast iron only yielded at 610 lbs. The experiments upon malleable iron were not considered so conclusive, as the force of the blows for breaking the bars, being manual labour, could not be accurately increased; the impact of a weight falling from a given height would have been more satisfactory. Some specimens of wrought iron, of a peculiarly fine quality, made from hot-blast pig-iron at the Butterley Works, were exhibited, and in the discussion which ensued, it appeared to be the general opinion that the use of hot air in smelting might, with due precaution, be adopted with advantage; but that, unfortunately, from the facility it afforded for working up refuse ores and sulphureous coal, it had been abused.

The ballot for members was announced to take place at the meeting of Tuesday, April 4th, when the following papers would be read:—"On the Supply of Water to Glasgow," by D. Mackain, M. Inst. C.E.—"On the Supply of Water to the Island of Malta," by W. L. Arrowsmith, A.I.C.E.

MANUFACTURE OF PLATE GLASS.—Amongst the many interesting lectures delivered at the Polytechnic Institution, there has been one on the art of plate glass making, and the application of chemistry to the perfection of its manufacture. A great many splendid specimens of glass, in the various stages of the process, supplied by the kindness and liberality of the Union Plate Glass Company, from the extensive works at St. Helen's, in Lancashire, were exhibited, and illustrated the lecture. The subject, which, in a national and commercial point of view, is one of very great interest, independently of its scientific relations, was treated in a methodical and proper manner, so as to be intelligible to the capacities and previous knowledge of the audience. A history of the art, from its earliest introduction—the manufacture of the pure alkali, the importation of the white sand made use of, and the progress of the invention till its present perfection, were all described. The melting, casting, rolling, grinding, polishing, and cleaning of the plates was described. Models of the crucibles and casting-pots were shown; and, in fact, nothing was omitted by which a clear comprehension of the art could be conveyed, or the lecture made interesting. Dr. Ryan, who delivered the lecture, paid a well merited compliment to the Union Plate Glass Company, for their ready assistance in furnishing the specimens, &c., by which he illustrated his lecture.

PHOTOGRAPHY.—Advance on, Invention! for who shall divine thy bounds, or limit thy progress? It is but a short time since the world was astonished by the announcement that likenesses could be taken without the aid of a painter; and now, by further progress in the discovery, we find the invention so far matured, that every description of tint can be produced, with the addition of scenic background and other pictorial effects—in fact, a perfect miniature likeness of oneself transferred, every peculiarity of expression faithfully recorded, in the incredibly short time of a few seconds—thus entirely superseding the hitherto great objection to portrait painting, that of repeated or long sittings. All doubts as to the exactness of the artist's efforts are removed; for a photographic miniature is a perfect resemblance—Art's proof of Nature's work; the chances of mistake being precluded, a *fac-simile* is, of necessity, produced. Another wonder in this new feature of science, is the faithfully transferring copies of plans, portraits, or paintings, no matter how difficult or intricate the subject—indeed, some of the specimens we have seen are really wonderful for their effect; but we advise our readers to call at Mr. Beard's establishment, in Parliament-street, and inspect the many beautiful and various works there collected, which will be readily shown by the obliging and intelligent gentlemen, under whose management the photographic principle of portraiture is but a short and pleasing recreation.

IRON COLONNADE AT MANCHESTER.—A description of this elegant and massive structure, which is intended to carry the Liverpool and Leeds Junction Railway over the valley at Hunt's Bank, Manchester, may not be uninteresting to our readers. It is 720 feet in length and twenty-four feet wide, supported on fifty-two cast-iron columns, each weighing four tons, carrying forty-six main girders, averaging six and a half tons each; on these rest the longitudinal girders, eighty-six in number, varying from three and a quarter to five and a quarter tons each, eighteen feet above the level of the street below. The whole will be fenced off on the side next the prison by a cast-iron screen, eleven feet high, the top of which will be seven feet above the rails. The style adopted, and which is in accordance with the massiveness required, is a modification of the Egyptian. The columns, with the mushroom-formed head, from which springs the favourite reeded capital of Egyptian architecture, stand upon stone basements, which project about one foot above the pavement, and give firmness and solidity to the whole appearance. The quantity of iron in the whole structure will be about 1020 tons, and it will be completed in about two months.

REMARKABLE BRIDGES.—The longest stone bridge in Spain is the Alcantara, 1210 feet; in France, the wooden bridge of Avignon, 1740 feet; in Ireland, at Belfast, wood, 2000 feet; in England, at Berwick, 1164 feet; Blackfriars, 995; Waterloo, 1242; Westminster, 1245; London, 800 feet; in Wales, the Menai-bridge is 1050 feet.

CURRENT PRICES OF STOCKS AND SHARES.

STOCK EXCHANGE, Saturday morning, Twelve o'clock.

Consols Money, 96⅞ ¼
Ditto Account, 96⅞ ¼
New 3½ per Cents., 102⅜ ⅝
Reduced 3 per Cents., —
Reduced 3½ per Cents., —
Long Annuities, —
Bank Stock, —
Exchequer Bills, 62 64 pm.
Belgian Bonds, 5 per Cent., 104½ 5½
Brazil, 5 per Cent., 75 77
Danish, 3 per Cent., 86 7
Dutch, 2½ per Cent., 55⅜ 6
Ditto, 5 per Cent., 102⅜ ⅝
Portuguese, 5 per Cent., 40⅜ 41
Ditto, 3 per Cent., —
Russian, 5 per Cent., 113½ 14
Spanish, Actives, 5 per Cent., 22⅞ 3
Ditto, 3 per Cent., 32⅛ ⅝
Chili, 6 per Cent., 90 92
Colombian, 6 per Cent., 25⅛ 6
Mexican, 5 per Cent., 30⅝ 31
Peru, 20 21

BANK OF ENGLAND.—Quarterly Average of the Weekly Liabilities and Assets from the 31st of December, 1842, to the 25th of March, 1843, both inclusive :—

LIABILITIES.		ASSETS.	
Circulation	£20,050,000	Securities	£22,830,000
Deposits	12,663,000	Bullion	11,034,000
	£32,698,000		£34,364,000

Downing-street, March 31.

The premium on gold at Paris is 15 per mille, which, at the English Mint price of 3l. 17s. 10½d. per ounce for standard gold, gives an exchange of 25 46, and the exchange at Paris on London at short being 25 67½, it follows that gold is 0·78 per cent. dearer in London than in Paris.

By advices from Hamburgh the price of gold is 434½ per mark, which, at the English Mint price of 3l. 17s. 10½d. per ounce for standard gold, gives an exchange of 13 9¾, and the exchange at Hamburgh on London at short being 13 11¼, it follows that gold is 0·60 per cent. dearer in London than in Hamburgh.

[From our own correspondents.]

LATEST PRICES OF IRISH STOCKS.—3 per Cent. Consols, 95½l. to 96⅛l. ; 3½ Stock, 101¾l. ; ditto New, 1830, 101¼l. ; 3½ per Cent. Debentures, 99½l. ; Bank Stock, 182¼l.—Kingstown Railway, 107l. ; Dublin and Drogheda, 31½.—Hibernian Bank, 29¼l. ; Royal Bank, 11¼l. ; Provincial Bank, 40l.—City of Dublin Steam Co., 102½l. ; ditto Stock, 180, 48½l. — Steam Ship Building Company, 49l. ; British and Irish ditto, 50½l.—National Insurance Company, 20¼l. ; Patriotic, 7¼l.—Mining Company of Ireland, 13¾l. ; Wicklow Copper Mines, 13½l.

LEEDS, THURSDAY.—The business transacted has been, since our last report, of considerable importance in the share trade ; and although prices, during the latter part of last week, were rather drooping, yet they are now again more active, and may be quoted stronger in almost all descriptions of railway stock.—North Midland 80l. ; York & N. Midland, 97l. ; Leeds and Selby, 105l. ; Hull and Selby, 58½l. ; Great North of England, 61l. ; Manchester and Leeds, 79l. ; Sheffield and Rotherham, 27l. ; Edinburgh and Glasgow, 40½l. ; Bristol and Exeter, 67l. ; Cheltenham and Great Western, 31l. ; Northern and Eastern, 35l.—Leeds Banking Company, 15¼l. ; Leeds and West Riding, 8½l. ; Leeds Commercial, 21l. ; Yorkshire District, 5½l.—Leeds and Liverpool Canal, 500l. ; Huddersfield, 16l. ; Rochdale, 55l. — Leeds and Yorkshire Assurance Company, 15¼l.—Leeds Old Gas Company, 73l. ; Leeds New Gas Company, 27½l.—Leeds Commercial Buildings, 2½l. R. R. WATSON & CO.

HULL, THURSDAY.—Shares are more freely offered, and slightly lower prices are submitted to. We beg to hand you the annexed as our latest prices :—Birmingham & Derby, 41l. to 46l. ; Edinburgh and Glasgow, 40l. to 9½l. ; Great North of England, 61l. ; Hull and Selby, 57½l. to 58l. ; Leeds and Selby, 105l. ; London and Birmingham, 200l. ; Liverpool and Manchester, 201l. ; London and Brighton 36l. to 36½l. ; Manchester and Leeds, 79l. ; Midland Counties, 60l. ; Newcastle and Carlisle, 7ml. Northern and Eastern, 34½l. to 35l. ; North Midland, 64l. ; South Eastern, 20l. ; York and North Midland, 94½l.—Yorkshire District Bank, 4½l. to 5l. ; Hull Banking Company, 6¼l. to 7l.—Hull Dock Company, 120l. ; Hull Gas, 25l. ; Hull Flax and Cotton Mills, 10ml. ; Hull Marine Insurance, 110l.

BRISTOL, FRIDAY.—We have had but few transactions in railways this week, and we close to-day dull and inactive, at the following quotations :—Great Western Railway, 94l. to 95l. ; ditto, halves, 60¼l. to 60½l. ; ditto, fifths, 17¼l. to 18l. ; Bristol and Exeter, 57l. to 58l. ; Bristol and Gloucester, 22l. ; Birmingham and Gloucester, 49l. to 50l. ; Birmingham and Derby, 41l. to 44l. ; Cheltenham Union, 31l. to 32l. ; London and Brighton, 35½l. to 36½l. ; Eastern Counties, 10l. to 10½l.—Bristol Gas Company, 27½l. to 28½l. ; Clifton, 24l. to 25l.

NEWCASTLE, THURSDAY.—There has been but little business transacted in our share market during the week, and prices are scarcely so firm. We hand you the following as the prices quoted here :—North of England Joint-Stock Bank, 4l. ; Northumberland and Durham District, 8l. ; Newcastle, Shields, and Sunderland Union, 8l. ; Newcastle-upon-Tyne Joint-Stock, 13¼l. ; Newcastle Commercial, 8¼l. ; Sunderland, 5¼l. ; Darlington District, 5l. ; Carlisle City and District, 10l. ; Carlisle and Cumberland, 6¼l. ; Stockton and Durham County, 3¼.—Newcastle and Carlisle Railway, 75l. ; Newcastle and North Shields, 35l. ; BrandlingJunction, 5l. ; Durham and Sunderland, 16¼l. ; Clarence, 15l. ; the Maryport and Carlisle, 55l. ; Hartlepool Dock and Railway, 175l. ; Bishop Auckland and Weardale, 60l. ; Great North of England, 61l.—Newcastle Union Shipping Company, 14l. ; Port of Newcastle, 10l. ; London, Newcastle, and South Shields, 5l. ; Gateshead and Tyne, 10l.—North and South Shields Steam Ferry, 110.—Newcastle Subscription Water Company, 22l.—Newcastle and Gateshead Union Gas Company, 7¼l.—Durham County Coal Company, 3¼l. ; Northern Coal Mining Company, 1¼.

SUNDERLAND, THURSDAY.—Sunderland Joint Stock Bank, 6l. ; North of England, 4l. 0s. 0d. ; Newcastle, Shields, and Sunderland Union, 8l. 2s. ; Northumberland and Durham District, 8l. 2s. ; Newcastle Commercial, 8l. 10s.—Durham and Sunderland Railway, 16l. ; Brandling Junction, 20l. ; Newcastle and Carlisle, 75l. ; Newcastle and North Shields, 30l. ; Hartlepool Dock and Railway, 100l. ; Great North of England, 61l. 0s. — Wear Shipping Company, 2l. 10s. ; Borough, 2l. 10s. ; Gateshead and Tyne, 10l.—Sunderland Subscription Gas Light Co., 18l. ; Sunderland Joint-Stock Premium Association, 5¼l. ; Sunderland Exchange Buildings, 50l. ; Bishopwearmouth Water-works, 40l. ; Sunderland Arcade Building, 50l. ; Monkwearmouth Docks, 30l. ; Durham County Coal Company, 3¼l. ; Monkwearmouth Gas Light Company, 14l. ; Northern Coal Mining Company, 1¼l.

LIVERPOOL, FRIDAY.—Chester and Birkenhead Railway, 17¼l. ; Eastern Counties, 10l. ; Edinburgh and Glasgow, 40¼l. ; Grand Junction, 201l. ; Great Western, 93¼l. ; Great North of England, 61l. ; Lancaster and Preston, 33l. ; Liverpool and Manchester, 201l. ; London and Birmingham, 208l. ; London and South Western, 64l. ; London and Brighton, 34½l. ; Manchester, Bolton, and Bury, 54l. ; Manchester and Birmingham, 11½l. ; Manchester and Leeds, 79l. ; Midland Counties, 60½l. ; North Midland, 63¼l. ; North Union, 74l. ; Paris and Rouen, 20½l. ; South-Eastern, 20l. ; York and North Midland, 95l.—Borough Bank, 14l. ; Bank of Liverpool, 13¼l. ; Commercial, 16¼l. ; Liverpool Banking Company, 7½l. ; Manchester and Liverpool District, 9¼l. ; North and South Wales, 6l. ; Royal, 40½l. ; Union, 10¼l.—Fire and Life Assurance, 3¼l. ; Marine Assurance, 4¼l. — Anderton Carrying Company, 4¼l.—Palmerston's Bitumen Company, 1l. — Gas-Light Company, 201l. ; New Gas and Coke Company, 224l.—Harrington Dock, 74¼l.—Bootle Water Works, 230l. ; Liverpool and Harrington Water Works, 62ml.

BIRMINGHAM, THURSDAY.—London and Birmingham Railway, 206l. to 208l. ; London and Brighton, 35¼l. ; London and South-Western, 63l. to 64l. ; Great Western, 93¼l. to 93¾l. ; Birmingham and Derby, 41l. to 43l. ; Birmingham and Gloucester, 49l. to 51l. ; Manchester and Leeds, 61l. to 62l. ; Edinburgh and Glasgow, 40l. to 50l.—Birmingham Banking Company, 10¾l. ; District, 6l. ; Midland, 31l.—Birmingham Canal, 100l. ; Birmingham and Worcester, 33l. to 34l. ; Birmingham Water-Works, 25¼l. ; Birmingham Gas, 100l. ; Birmingham and Staffordshire, 60l. to 61l. ; Union Mill, 5¼l. ; New ditto, 1¼l.

COAL MARKET, LONDON.

MONDAY.—Prices of coals per ton at the close of the market :—Adair's Main 14 0—Carr's Hartley 15 0—Davison's West Hartley 15 6—Hasting's 15 6—Holywell Main 16 0—Nelson's West Hartley 15 6—Old Tanfield 14 6—Ord's Redheugh 13—Tanfield Moor 17—West Hartley 15 0—Wylam 15 0—Wall's End Bell and Brown 17 9—Hedley 17—Hilda 16 6—Todd's Bensham 17—Braddyll's Hetton 19 6—Haswell 19 9—Hetton 19 9—Lambton 19 6—Stewart 19 6—Whitwell 18—Caradoc 19 6—Barrett 17 6—Clarence Hetton 18 6—Evenwood 16—South Durham 17 6—Seymour Tees 17 6—Seymour Tees 18—Hartley 14 6—Howard's West Hartley Netherton 15 6—Stobhouse 15—Sidney's Hartley 15 6.—Ships arrived, 37.

WEDNESDAY.—Adair's Main 14 6—Hasting's Hartley 16—Holywell 16—Hebburn Main 16 3—Old Tanfield 14 6—Ord's Redheugh 14 6—Tanfield Moor 17—West Hartley 16—Wylam 15 6—Wall's End Gibson 18—Hilda 17—Bewicke 16 6—Killingworth 17 6—Todd's Bensham 17—Whareliffe 18 3—Braddyll's Hetton 20 0—East Hetton 19 9—Hetton 20—Lambton 20 3—Caradoc 20 3—Hartlepool 20—Tallow 20—Richardson's Tees 19 6—South Durham 19—Tees 20—Hartley 14—Stobhouse 15 3—Sidney's Hartley 15 6.—Ships arrived, 6.

FRIDAY.—Davison's West Hartley 16—Hastings 16—Holywell Main 16 6—Ord's Redheugh 15 6—Tanfield Moor 17 6—Wylam 16 6—Wall's End Hilda 17 6—Bewicke 16 6—Killingworth 17 6—Lambton 20 6—Pemberton 19 6—Stewart's 21—Barrett 18 6—Hartley 16—Howard's West Hartley Netherton 16—Stobhouse 15 6—Sidney's Hartley 15 6.—Ships arrived, 9.

THE LONDON GAZETTE—BANKRUPTS.

TUESDAY.—T. B. Bowles, Oxford-street, draper—I. Wilson, Tillingham, Essex, draper—A. Perkins, Bishopsgate-street without, corn dealer—C. Gilby, Greenwich, Kent, wine merchant—J. H. Glover, Bermondsey-street, Surrey, oilman—R. Coulburn and E. Butler, jun., Birmingham, woollen drapers—J. Pym, Belper, Derbyshire, cabinet maker—R. Teague, Birmingham, builder—J. Yarborough, Old Lyons, Lancashire, coal dealer—H. Geary, Swadlincote, Flintshire, maltster—G. Thomas, York, victualler—J. Clemmons, Walk-upon-Dearne, Yorkshire, builder—R. and J. Blackburn, Morley, Yorkshire, cloth manufacturers—J. Bowman, Carlisle, Cumberland, woollendraper—J. Henderson, Greenside, Durham, wood merchant—J. Fletcher, Maryport, Cumberland, boiler manufacturer—H. Yeoman, Lansdown, Gloucestershire, chemist—J. Dunlock, Tewkesbury, Gloucestershire, druggist.

FRIDAY.—Ezra Harte, St. John-street-road, chemist—R. Wise, Bridge-house-place, Newington-causeway, builders' ironmonger—James Whiting, Bedford-street, Commercial-road, carpenter—T. Hutchins, Andover, Southampton, common carrier—T. Hogge, Chesham, Buckinghamshire, upholsterer—J. Brander, Cranborne, Dorsetshire, grocer—G. Beecher, Gate-street, Lincoln's Inn-fields, currier—T. W. Colquhoun, Fore-street, Pentonville, coach proprietor—H. Kay, Clerwell-street, victualler—G. M. Horton, Ringwood, Hampshire, coach proprietor—W. Brotherson, Horsfield, Staffordshire, miller—J. F. Smith and S. M. Brown, Bristol, carpenters—J. Clapham, Leeds, licensed victualler—R. Smith, Worcester, attorney—E. Youngthomas, Cheltenham, brickmaker—T. H. Thompson, Liverpool, merchant.

IRONMASTERS' MEETINGS—1843.

Walsall	Tuesday	April	4	July	4	Oct.	3
Wolverhampton	Wednesday	—	5	—	5	—	4
Birmingham	Thursday	—	6	—	6	—	5
Stourbridge	Friday	—	7	—	7	—	6
Dudley	Saturday	—	8	—	8	—	7
Newport (coal and iron)	Monday	—	10	—	10	—	9

SALE OF COPPER ORES IN CORNWALL.

Sampled March 15, and Sold at Pearce's Hotel, Truro, March 30.

Mines.	Tons.	Price.	Purchasers.	Mines.	Tons.	Price.	Purchasers.
Consols	103	£5 11 6	Williams.	Tresavean	50	£3 7 6	P. Grenfells.
ditto	109	5 11 6	—	ditto	28½	4 18 6	Mines Royal
ditto	90	5 9 6	Nevill & Co.	ditto	28¼	4 18 6	English Co.
ditto	92	4 15 0	Freemans.	ditto	62	4 2 0	P. Grenfells.
ditto	86	4 14 6	Vivians.	Hallenbeag	25¼	4 8 0	Vivians.
ditto	78	5 1 6	Williams.	ditto	25¼	4 8 0	Freemans.
ditto	75	7 1 6	—	ditto	25¼	4 8 0	Nevill & Co.
ditto	84½	3 15 0	Nevill& Co.	ditto	76	5 12 0	Williams.
ditto	84½	3 15 0	Williams.	ditto	74	2 9 6	—
ditto	47	5 1 6	—	ditto	60	3 4 0	Vivians.
ditto	56	2 16 0	—	ditto	85	4 6 0	Freemans.
ditto	26	4 11 6	Vivians.	ditto	96	6 15 0	English Co.
ditto	26	4 11 6	Williams.	Fowey C.	112	5 10 6	P. Grenfells.
ditto	41	4 2 0	—	ditto	56	4 17 0	Vivians.
ditto	72	0 15 0	—	ditto	67	5 12 6	P. Grenfells.
ditto	18	3 4 6	—	E. Downs	108	3 9 0	Vivians.
United M.	136	4 12 0	P. Grenfells.	ditto	67	3 17 6	—
ditto	115	8 7 0	Williams.	ditto	40	3 12 6	—
ditto	55½	6 8 0	Vivians.	West Jewel	73	4 13 0	Nevill & Co.
ditto	55½	6 8 0	Freemans.	ditto	35	6 8 0	Freemans.
ditto	100	4 19 0	Williams.	ditto	35	6 8 0	Nevill & Co.
ditto	60	4 17 6	Nevill & Co.	ditto	58	3 19 0	—
S. Caradon	75	5 7 6	—	Wh. Ellen	67	4 6 0	—
ditto	75	5 7 6	Williams.	ditto	57	3 8 0	Freemans.
ditto	30	5 5 0	Freemans.	ditto	19	2 14 0	Mines Royal
ditto	30	5 5 0	P. Grenfells.	ditto	18	6 19 6	Freemans.
ditto	30	5 5 0	Nevill & Co.	ditto	6	6 15 0	Vivians.
ditto	84	6 1 0	Freemans.	Treleigh C.	77	4 5 6	Williams.
ditto	56	3 16 0	Vivians.	ditto	65	2 15 6	Nevill & Co.
Tresavean	86	3 10 6	—	Wh. Vyvyan	69	1 9 0	Freemans.
ditto	62	3 1 6	—	ditto	30	4 9 6	Williams.
ditto	60	2 14 0	Williams.	Phœnix M.	27	9 2 6	Freemans.

TOTAL PRODUCE.

Consolidated	944	£4410 19 6	Williams's East D.	215	£777 4 6
United Mines	520	3116 17 0	West Wh. Jewel	206	1011 16 0
South Caradon	404	2125 15 0	Wh. Ellen	167	663 5 0
Tresavean	376	1354 17 0	Treleigh Consols	142	500 11 0
Hallenbeagle	261	1347 17 0	Wh. Vyvyan	99	249 6 0
Fowey Consols	274	1453 12 6	Phœnix Mines	27	246 7 6

Average standard, 108l. 1s.—Average produce, 6⅜.—Average price, 4l. 11s. 0d.—Quantity of ore, 3741 tons.—Quantity of fine copper, 254 tons 19 cwt.—Amount of money, 17,267l. 10s. 0d.—Average standard of last sale, 100l. 13s.—Average produce, 7⅛.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal Company	47½	£191 13 3
English Copper Company	54½	157 5 3
Vivian and Sons	771½	3132 10 2
Freeman and Co.	554	2790 10 2
P. Grenfell and Sons	464	2290 6 0
Sims, Willyams, Neville, Druce, and Co.	628½	2910 7 2
Williams, Foster, and Co.	1221½	5494 9 0
Total	3741	£17,267 10 0

Copper ores for sale on Thursday next, at Serpell's, Pool.—Mines and Parcels.—E. W. Crofty, &c., 714 ; Dolcoath, 421 ; Camborne Vean, &c., 377 ; South Wheal Basset, 326 ; United Hills, 319 ; Par Consols, 201 ; Fowey Consols, 260 ; Wheal Trewavas, 175 ; East Pool, 118 ; Brewer, 122 ; Tretoil, 116 ; Wheal Harriet, 101 ; Wheal Vor, 50 ; Wheal Tolgus, 87 ; Wheal Penrose, 36 ; Tregullan, 31 ; Wheal Towan, 11 ; Leseave, 6 ; Wheal Rinsey, 5.—Total, 3560 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Wheal Friendship, 404 ; Wheal Virgin, 391 ; Fowey Consols, 295 ; Wheal Providence, 240 ; Botallack, 232 ; Wheal Darlington, 212 ; Levant, 148 ; Providence Mines, 124 ; Wheal Trenwith, 110 ; Cregg Braws, 84 ; St. Ives Consols, 80 ; Wheal Neptune, 67 ; Tregothnan Consols, 58 ; Spearn Moor, 9.—Total, 2543.

SALE OF COPPER ORES AT SWANSEA.

Sampled March 8, and sold on the 29th March.

Mines	Tons	Produce	Stand.	Price	Mines	Tons	Produce	Stand.	Price
Cobre	94	12	93⅛	9 4 0	Santiago	90	24¼	89	19 8 6
ditto	89	12	93¼	9 4 0	ditto	63	24¼	89½	19 10 6
ditto	65	11⅜	95¼	9 2 0	ditto	61	24½	90½	19 16 6
ditto	57	22	89½	17 10 0	Chili	91	23	89½	16 7 6
ditto	54	20¼	90⅛	16 0 0	ditto	90	23¼	88½	18 8 0
ditto	95	11⅜	99	9 13 0	ditto	61	22⅞	89½	18 5 0
ditto	93	11⅜	96⅛	9 2 6	ditto	30	50⅛	85	40 16 6
ditto	79	11⅛	97	9 0 6	Connorree	89	2⅜	144	1 10 6
ditto	38	19⅛	91⅛	15 15 0	ditto	95	2	135	1 16 0
ditto	7	22⅞	90	17 19 6	ditto	22	2	157⅛	0 19 0
Knockmahon	119	7⅛	101⅛	5 12 0	ditto	5	13⅞	98⅛	9 17 6
ditto	106	9⅛	98⅛	7 11 0	Llandidno	93	12	97	9 8 0
ditto	105	9⅛	99	7 5 0	Tigroney	75	6⅛	109⅛	5 1 6
ditto	83	7⅛	103⅛	5 10 0	Cronebane	64	5⅛	110⅛	4 5 0
ditto	93	6⅛	106⅛	4 16 0	ditto	20	5⅛	110⅛	4 4 6
ditto	60	8	102⅛	5 19 0	Bearhaven	67	10⅛	99⅛	7 17 0
ditto	57	7⅛	104⅛	5 17 0	Aberdovey	13	17⅛	91⅛	13 15 0
ditto	56	10	99⅛	7 11 6	ditto	11	7⅛	104⅛	5 12 0
ditto	55	10⅛	97	7 16 6	Llanidloes	13	21⅛	89⅛	16 15 0
ditto	40	7⅛	103	5 12 0	Gloucestersh.	8	21⅛	87⅛	16 10 0

Total tons, 2452.—Total amount, £24,749 18 6

TOTAL PRODUCE.

Cobre	637	£6716 11 6	Tigroney	75	£380 12 6
Knockmahon	761	4826 14 6	Cronebane	84	380 19 0
Santiago	214	4198 15 0	Bearhaven	67	525 19 0
Chili	276	5019 2 6	Aberdovey	24	240 7 0
Connorree	200	336 7 6	Llanidloes	13	217 15 0
Llandidno	93	874 4 0	Gloucestershire	8	132 0 0

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company	206⅛	£2990 14 6
Freeman and Co.	13	217 15 0
Grenfell and Sons	274⅛	3869 2 6
Sims, Willyams, Neville, Druce, and Co.	238	1907 14 6
Vivian and Sons	604	6464 19 6
Williams, Foster, and Co.	987	8880 12 6
Total	2452	£24,749 18 6

Copper ores for sale April 13.—Cobre 130, ditto 110, ditto 104, ditto 71, ditto 49, ditto 104, ditto 103, ditto 94, ditto 86, ditto 59, ditto 19, ditto 96, ditto 97, ditto 96, ditto 91, ditto 91, ditto 79, ditto 74, ditto 70, ditto 40, ditto 81, ditto 80, ditto 63, ditto 44, ditto 53, ditto 41, ditto 9, ditto 38, ditto 7—Knockmahon 134, ditto 103, ditto 104, ditto 40, ditto 83, ditto 90, ditto 77, ditto 70—Santiago 103, ditto 104, ditto 103, ditto 91, ditto 90, ditto 89, ditto 74—ditto 80—Bearhaven 100, ditto 113, ditto 96, ditto 79—Skull Mine 44—Coshean 37—Cronebane 16, ditto 16—Kenmare 31—Connorree 13.—Total, 2490 tons.

SALE OF BLACK TIN,

By Ticket, on the 27th of March, at Penzance.

Mines.	Tons.	Price.	Amount.	Purchasers.
Wheal Mary	14⅛	£38 7 6	£336 8 9	James.
ditto	1⅛	33 5 0	33 8 4	Bolithos and Co.
ditto	1⅛	33 5 0	33 6 4	Williams and Co.
ditto	1⅛	33 5 0	33 9 4	James.

Total tons, 19⅛.—Amount, £722 13 9.

LATEST CURRENT PRICES OF METALS.

LONDON, MARCH 31, 1843.

	£ s. d.	£ s. d.
SPELTER—Foreign, ton	0 0 0 to	20 0 0
— For delivery	0 0 0	22 0 0
ZINC—English sheet	0 0 0	30 0 0
QUICKSILVER	per lb.	0 4 0
IRON—English bar, &c.	p. ton	5 5 0
— Nail rods	0 0 0	6 0 0
— Hoops	0 0 0	7 10 0
— Sheets	0 0 0	8 10 0
— Cargo in Wales	0 0 0	4 10 0
— Pig, No. 1, Wales	0 0 0	3 10 0
— No. 1, Clyde	0 0 0	3 0 0
— Pot., Swedish	10 10 0	10 15 0
— Russian, CCND		10 10 0
— — PSI		—
— — Gourieff		13 10 0
— — Archangel		—
STEEL—Swedish keg	p. ton	17 5 0
— — Faggot	0 0 0	—
COPPER—English sheathing	lb.	0 0 9⅛

	£ s. d.	£ s. d.
COPPER—Old	per lb.	—
— Cake p. ton	0 0 0 to	83 0 0
— For. cake	0 0 0 to	—
— — tile	0 0 0 to	81 0 0
TIN—English, blocks, &c. cwt.		3 3 0
— — bars	0 0 0	3 5 0
— Foreign, Banca	0 0 0	3 3 0
— — Straits	0 0 0	3 0 0
— — Peruvian	0 0 0	2 10 0
Tin plates, No. IC. p. box	1 3 0	1 8 0
— — No. IX.	1 11 0	1 14 0
— wasters 2s. p. box less		
LEAD—Sheet milled	p. ton	18 10 0
— Shot, patent		22 0 0
— Red		22 0 0
— White		24 0 0
PIG-LEAD—English	17 0 0	17 10 0
— Spanish	0 0 0	17 0 0
— American	0 0 0	17 0 0

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the week ending Thursday last :—

Silver coin to Hong Kong	20,575	ounces.
— Bombay	40,000	—
— Rotterdam	20,000	—
— Calais	25,384	—
Silver bars to Bombay	104,000	—
— Calais	20,000	—
Gold bars to New York	3,000	—
— Bombay	1,000	—

[From the Midland Counties Herald of Thursday.]

The market for metals does not improve, the accounts from Wales remaining dull as the increase, and cargo iron still nominally so low as 4l. 10s. per ton, with accumulating stocks. The stocks of other metals are not large, and of East India the supplies are very small, but still no article has been speculated in during the week, and the business has been only of a retail kind.

CURRENT PRICES OF MATERIALS IN CORNWALL,

AS SUPPLIED AT THE PRINCIPAL MINES.

	s.	d.		s.	d.
Common iron, per cwt.	6s	0d	Barrow bends	6s	0d
Half-inch square	7	6	Sheet lead	22	0
Five-eighth ditto	7	6	White ground lead	25	0
Best tough whim chain	20	0	Red lead	24	0
Boiler plates	11	6	Tallow	50	0
Whim kibble ditto	15	0	Candles, per dozen lbs.	5	6
Hoop iron	9	6	Gunpowder, per 100 lbs.	40	0
Best rolled iron	8	6	Leather bends, per lb.	1	10
Charcoal iron	15	6	Ropes	36	0
Inch ditto	11	6	Flat ropes	38	0
Half-inch ditto	12	6	Hemp	40	0
Blistered steel	33	0	White yarn, per cwt.	36	0
H 2 steel	52	0	White rope	36	0
Nail rods	11	0	Engine shag	0	6
Miners' shovels	30	0	Stockholm tar	20	0
Ditto steel pointed	50	0	Linseed oil, per gallon	3	0
Board nails	14	3	Rape ditto	4	6
Half-board ditto	16	3	Brass-wire sieves, each	40	0
Hatch ditto	19	0	Iron-wire ditto	25	0
Half-hatch ditto	22	0	Iron-wire work, per foot	1	4
2s. nails	14	6	Machine bottoms	23	0
Five-inch spike ditto	14	0	Balk	0	11
Casing ditto	15	0	Birch, per foot	1	4
28 lbs. nails	16	6	Pine	45	0
14 ditto	18	0	Shovel hilts	2	0
Coals, per ton, at quay	9	6	Pick hilts	1	4

PRICES OF MINING SHARES.

There has been considerable business done in mining shares during the past week, and it is gratifying to observe a gradual, but steady and certain, improvement—not only in the tone of the market, but in the reports from, and actual produce of, the mines. Under the head "Foreign Mining Intelligence," will be found a report from the Alten Mines, of a very satisfactory character—the estimated total produce for January having been 293 tons of ore, containing twenty tons of refined copper ; the general results of the estimates and assays were encouraging, and this mine bids fair to take a high stand in the market.

BRITISH MINES.

Shares.	Company.	Paid.	Price
500	Anglesey	5	—
4,000	Bedford	1⅛	2⅛
100	Botallack	175	1000
40,000	British Iron	79	—
8,000	Blaenavon	50	—
120	Brewer	—	140
79	Bodnick	—	20
1,000	Carn Brea	15	—
5,000	Con. Tretoil Mining Ass.	4	⅛
2,000	Cornubian Lead Co.	2	2⅛
512	Cook's Kitchen	—	50
112	Charlestown	—	300
128	Cregg Braws	40	—
128	Coshean	15	150
10,000	Durham County Coal Co.	37	—
128	East Pool	—	350
100	Great Consols	97	600
10,000	Hibernian	12⅛	—
1,000	Holmbush	14	40
2,000	Isle of Sark (Guernsey)	11	—
80	Levant	—	450
20,000	Mining Co. of Ireland	7	13⅛
128	Mostyn Mines	100	—
70	North Roskear	—	300
3,000	Polberou Consols	10	—
10,000	Rhymney Iron	50	—
1,000	Roaring Water	⅛	8
128	South Caradon	—	800
300	South Towan	10	1⅛
64	South Wheal Basset	—	500
57	Spearn Moor	70	100
135	Tregullan	—	—
4,000	Treleigh Consols	5	1⅛ 2
6,000	Tamar Consols	3	1⅛
6,000	Tincroft	7	13⅛
128	Trewavas	—	130

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price
120	Treviskey and Barrier	—	300
96	Tresavean	—	1200
120	Trethellan	—	230
4,000	United Hills	5	4
6,000	Wicklow Copper	5	—
3,845	West Wheal Jewel	10	14⅛
120	West Trethellan	75	90
53	Wheal Vor	500	—
1,000	Wheal Bandon	⅛	6
1,000	West Carbery	15	13⅛

FOREIGN MINES.

Shares.	Company.	Paid.	Price
5,000	Alten Mining Company	13⅛	3⅛
10,000	Anglo Mexican Co.	100	3⅛
3,374	Do. Subscription	25	3
2,000	Bolanos	150	4
	Ditto Scrip	15	4⅛
10,000	Brazilian Imperial	21	6⅛
10,000	Bolivar	20	—
10,000	Ditto Scrip	10	2
10,000	Cata Branca—Brazilian Company	6⅛	4 5
12,000	Cobre Copper Company	40	—
8,500	Colombian Co. regis.	55	—
10,000	Copiapo Mining Co.	13⅛	9
20,000	General Mining Asso.	20	—
5,351	Mexican Company	50⅛	—
12,000	Mocoabas and Cocaes	25	3 4
29,370	Rl. del Monte, regis. / Do. unregistered	2⅛	4 / 6⅛
	Ditto Loan Notes	150	127⅛
7,000	Royal Santiago	10	22
11,000	St. John d'el Rey	15	4⅛
40,000	United Mexican	40	7⅛
	Black Scrip, addl. capital	5	5
	Red New Scrip	1⅛	3

RAILWAY SHARE LIST AND TRAFFIC RETURNS.

Line.	Entire Lgth.	Now Open.	Present actual cost.	Pd. on Share.	Val. of Share.	Last week's returns.
Arbroath and Forfar Railway	15	15	£136,706	25	22	£112 0 7
Birmingham & Derby Junc.	48⅛	48⅛	1,149,035	100	43	1182 12 6
Birmingham and Gloucester	55	55	1,460,651	100	49	1327 0 3
Brandling Junction	25	25	434,024	50	—	730 7 6
Chester and Birkenhead	14⅛	14⅛	536,424	50	30	405 16 0
Dublin and Kingstown	6	6	340,262	100	77⅛	345 0 0
Dundee and Arbroath	16⅛	16⅛	143,532	25	25	103 19 1⅛
Durham and Sunderland	16	16	268,132	50⅛	18	790 14 8
Eastern Counties*	126	51	2,156,308	25	10⅛	1027 8 8
Edinburgh and Glasgow	46	46	1,313,097	50	40⅛	1794 10 3
Glasgow and Ayr	51	40	968,394	50	40	858 7 0
Glasgow and Paisley Joint	22⅛	22⅛	730,289	25	25	745 8 2
Gd. Junc. & Chester & Crewe	113⅛	113⅛	2,318,535	100	198	6566 10 11
Great North of England	74	45	1,201,671	100	61⅛	1182 3 1
Great Western	119⅛	119⅛	6,540,625	65	94	11468 18 1
Hayle	19	19	125,000	100	—	—
Hull and Selby	31	31	645,936	50	58⅛	950 19 11
Lancaster & Preston Junc.	20⅛	20⅛	450,300	47	27⅛	—
Liverpool and Manchester	31	31	1,515,255	100	192	3712 15 1
London and Birmingham	112⅛	112⅛	5,927,812	100	209	13880 16 10
London and Blackwall	3⅛	3⅛	1,225,373	16⅛	6⅛	609 15 4
London and Brighton	56	56	2,380,645	50	35⅛	2964 3 6
London and Croydon	10⅛	10⅛	656,371	18⅛	11⅛	359 15 7
London and Greenwich	3⅛	3⅛	1,019,896	13⅛	3⅛	762 16 11
London and South Western	92⅛	92⅛	2,380,934	39⅛	64⅛	4248 9 1⅛
Manchester, Bolton, & Bury	10	10	777,987	90	56	596 9 10⅛
Manchester & Birmingham	40	31	1,824,455	40	21	2501 0 0
Manchester and Leeds	50	50	3,650,206	70	80	3926 5 0
Midland Counties	57	57	1,036,148	100	62⅛	2276 12 4⅛
Newcastle and Carlisle	61	61	—	100	76	1220 8 7
Newcastle and N. Shields	7	7	252,479	45	44	300 16 0
Northern and Eastern†	30⅛	30⅛	899,067	45	35	1299 7 8
North Midland	72⅛	72⅛	3,322,551	100	65⅛	3680 7 4
North Union‡	22	22	619,619	75	73⅛	655 18 8
Preston and Wyre	19	19	317,055	50	36	189 0 4
Sheffield and Manchester	40	11	512,864	82⅛	32⅛	356 10 7
South Eastern	87	66	1,090,987	30	23⅛	1610 7 11
Taff Vale	30	30	590,728	100	—	713 9 11
Ulster	25	24	514,000	25	—	413 19 10
York and North Midland	27	27	451,081	50	97	1486 16 8

* Including Northern and Eastern Railway toll. † Rent and toll to Eastern Counties (about 130l. per week) included in the returns. ‡ The Liverpool and Manchester toll is deducted.

JOINT-STOCK BANKS.

Shares.	Company.	Paid.	Price	Shares.	Company.	Paid.	Price
15,000	Australasia	40	57⅛	50,000	Liverpool Borough	10	14⅛
20,000	Birmingham	10	19	25,000	Ditto Bank of	12⅛	20
20,000	British N. American	40	45⅛	12,000	Ditto Banking Co.	10	18
14,000	Cheltenh. & Gloucesh.	5	17⅛	50,000	Ditto Commercial	10	16
100,000	Commercial of Eng.	5	—	2,000	Ditto Royal	400	400⅛
1,000	Commer. of London	200	148	100,000	Manch. & Liver. Dis.	15	10
20,000	Colonial	25	13⅛	100,000	Manchester	10	4⅛
20,000	East of England	10	7⅛	20,000	Manchester & Salford	10	13
10,000	Gloucestershire	10	23	20,000	National of Ireland	17⅛	15
4,000	Ionian	25	24	10,000	Natl. Provl. England	35	35⅛
14,000	Leeds Banking Co.	15	16	60,000	North & South Wales	10	5
20,000	Leeds & West Riding	6⅛	8⅛	20,000	Provincial of Ireland	25	42⅛
30,000	London & Westminst.	20	23⅛	20,000	South Lancashire	7⅛	6⅛
60,000	London Joint-Stock	10	13	20,000	W. of Eng. & S. Wales D.	12⅛	12
20,000	London and County	15	15	10,000	Union of Australia	25	30
10,000	Liverpool Albion	25	16⅛	60,000	Union of London	10	10

MISCELLANEOUS.

Shares.	Company.	Paid.	Price	Shares.	Company.	Paid.	Price
10,000	Anglo-Mexican Mint	10	13	2,100	Hungerford Market	100	21⅛
10,000	Ast. Dry-Rot	10⅛	7	1,400	London Corn Exch.	37⅛	30
10,000	Asphalte (Claridge)	4	⅛	8,000	London Cemeteries	12⅛	15
10,000	Assam Tea Company	12⅛	4⅛	3,000	London Cemetery	20	10
10,000	Austral. Agricultural	26⅛	20	8,000	Lon. Sewer. Inl. Soc.	10	6
1,473	Australian Trust Co.	25	30⅛	15,000	Met. Pat. Wood Paving	5	6
12,000	Bitumen Bastenne	3⅛	⅛	20,000	Mexican & S. American	7	5
10,000	Ditto Pyrimont	3	⅛	—	New Brunswick (L.L.)	40	15
4,000	Brit. Amer. Land Co.	33⅛	9	—	Peninsular & Oriental	50	40
4,000	Brit. Loan & Dis. Inst.	10	18	1,207	Rever. Int. Society	100	100
3,000	Brit. Rock & Pat. Salt	25	12	15,000	Royal Mail Steam-Pac.	30	17
8,213	Canada Land Co.	32⅛	40	3,000	Sheff's Iron Foundry	40	38
3,000	E. C. of Con. Amr. Deb.	20	38	14,400	South Australian	50	17
3,000	Droitwich Patent Salt	25	12⅛	3,000	Ship Owners' Towing	7⅛	15
2,700	Equitable Rever. Soc.	60	61	4,000	Thames Tunnel	30	9
20,000	Gen. Steam Navig.	14	27⅛	10,000	Van Diemen's Land	18⅛	5
4,000	Gen. Rever. Int. Soc.	100	95	4,000	W. Lon. & Westmr. Cem.	—	20

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